GET SERIOUS ABOUT VACATIONS
Virginia Robbins confronts her workaholism and reminds us that vacations are necessary therapy. **PAGE 16**

MOBILE & WIRELESS WORLD
IT managers debate whether RFID is really ready to be rolled out. **PAGE 7**

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MAY 29, 2006 ▪ VOL. 40 ▪ NO. 22 ▪ $5/COPY

Huge Data Breach Puts VA's IT Policies Under a Microscope

Agency faces calls for IT changes; incident may drive privacy bills

BY GRANT GROSS AND JAIKUMAR VIJAYAN

The data theft at the U.S. Department of Veterans Affairs could have major ramifications for the agency itself and for other organizations, which are facing efforts to strengthen federal data-privacy laws and restrict the use of Social Security numbers in commercial transactions.

For the VA, there's no doubt that the incident will be expensive. At a hearing held by the House Veterans' Affairs Committee last Thursday, VA Secretary R. James Nicholson said it could cost the agency "way north of $100 million" to notify affected veterans, pay for credit-monitoring services to help them guard against identity theft, and cover any losses.

But that may just be the

IT Changes, page 44

Theft points to need for tighter safeguards on data, IT execs say

BY JAIKUMAR VIJAYAN

Tim O'Pry, his wife and his son are all among the 26.5 million veterans whose personal data was stolen this month from the home of a U.S. Department of Veterans Affairs employee. As an IT professional, O'Pry has a hard time understanding why the incident happened, when technology and process controls are widely available to mitigate such risks.

"Why the hell was someone allowed to have all that data at home?" asked O'Pry, who is chief technology officer at The Henssler Financial Group in Kennesaw, Ga. "Surely, they must have had policies and procedures to prevent that. If they didn't, why not? And if they did, what sort of checks and balances did they have?"

Safeguards, page 44

INSIDE
Frank Hayes says it's up to politicians to stop the theft of Social Security numbers.
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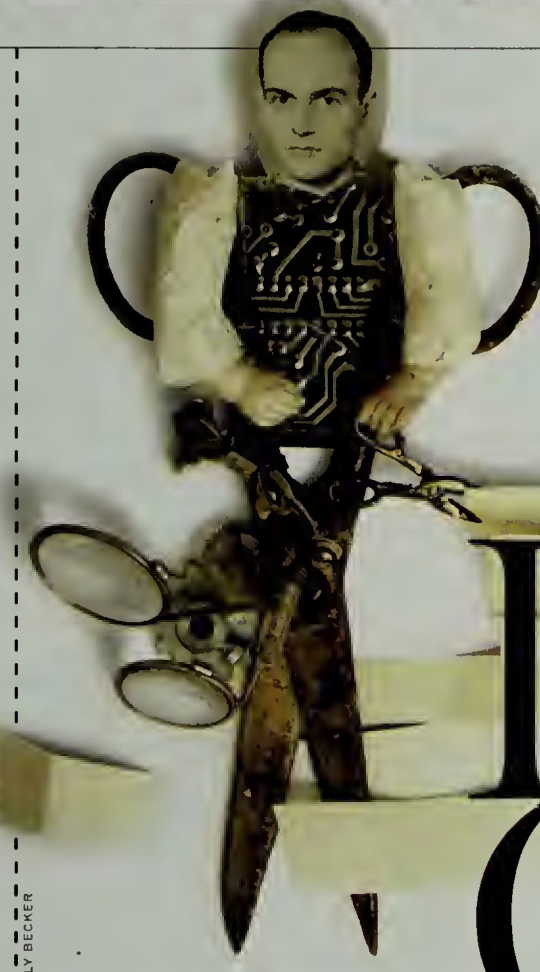


POLLY BECKER

No, there may never be a paperless office. But IT's war on paperwork is finally starting to pay off, reports Robert L. Mitchell. Page 19

Paper Cuts

IN DEPTH: SOFTWARE DEVELOPMENT

IT Looks to Halt Clashes Between Users, Developers

Friction forces large operations to take new steps to better manage requirements

BY HEATHER HAVENSTEIN

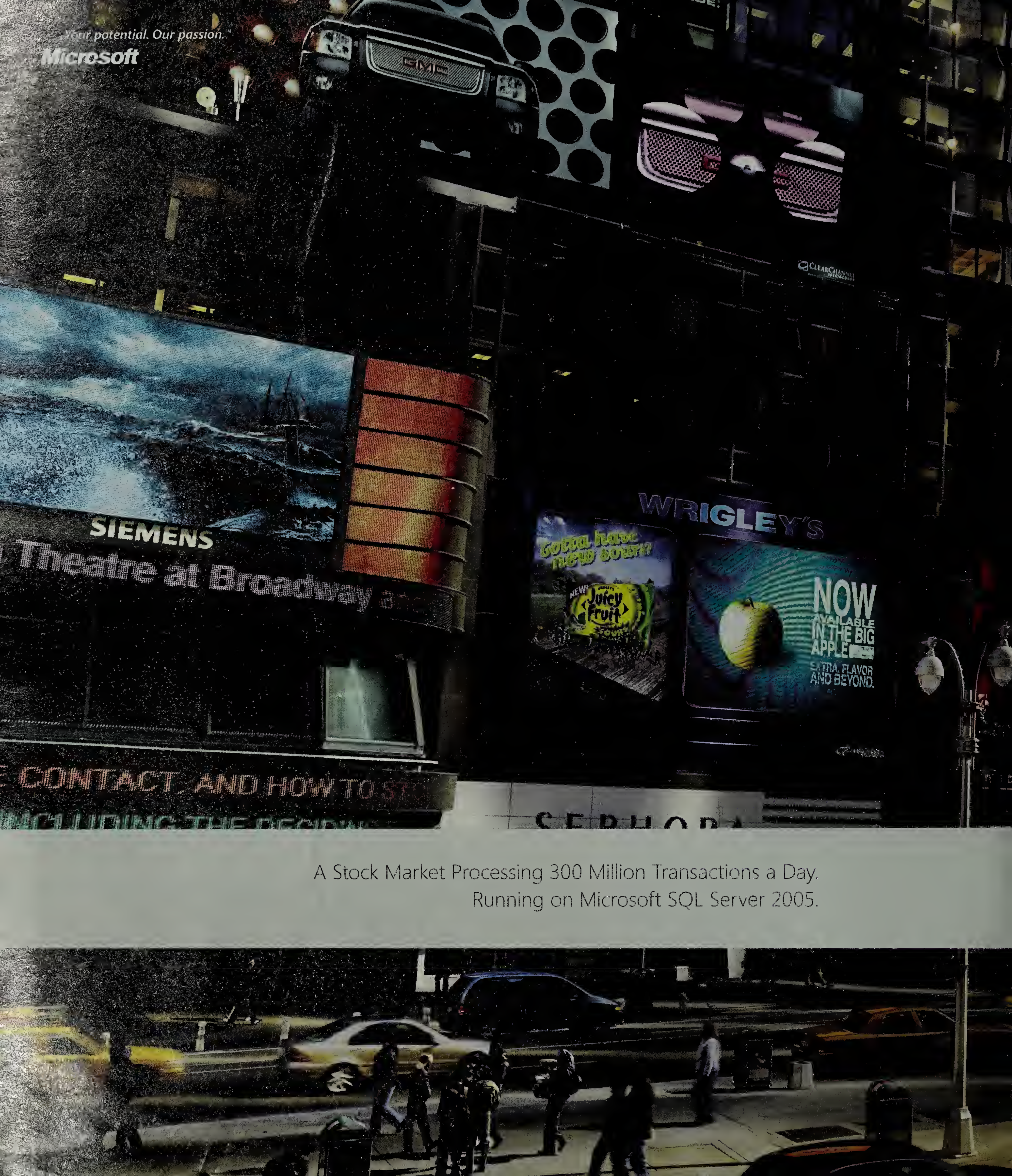
As users persist in their gripes that applications built by corporate developers don't meet their needs, IT managers are increasingly turning to tools and processes that can ease requirements definition and management efforts.

Several large companies and government agencies said that in recent months they have bought or built tools to automate paper-based or verbal requirements-definition methods.

Requirements, page 8

> There [was] a sense that IT should just know the business needs and write the requirements for users.

NEWSPAPER



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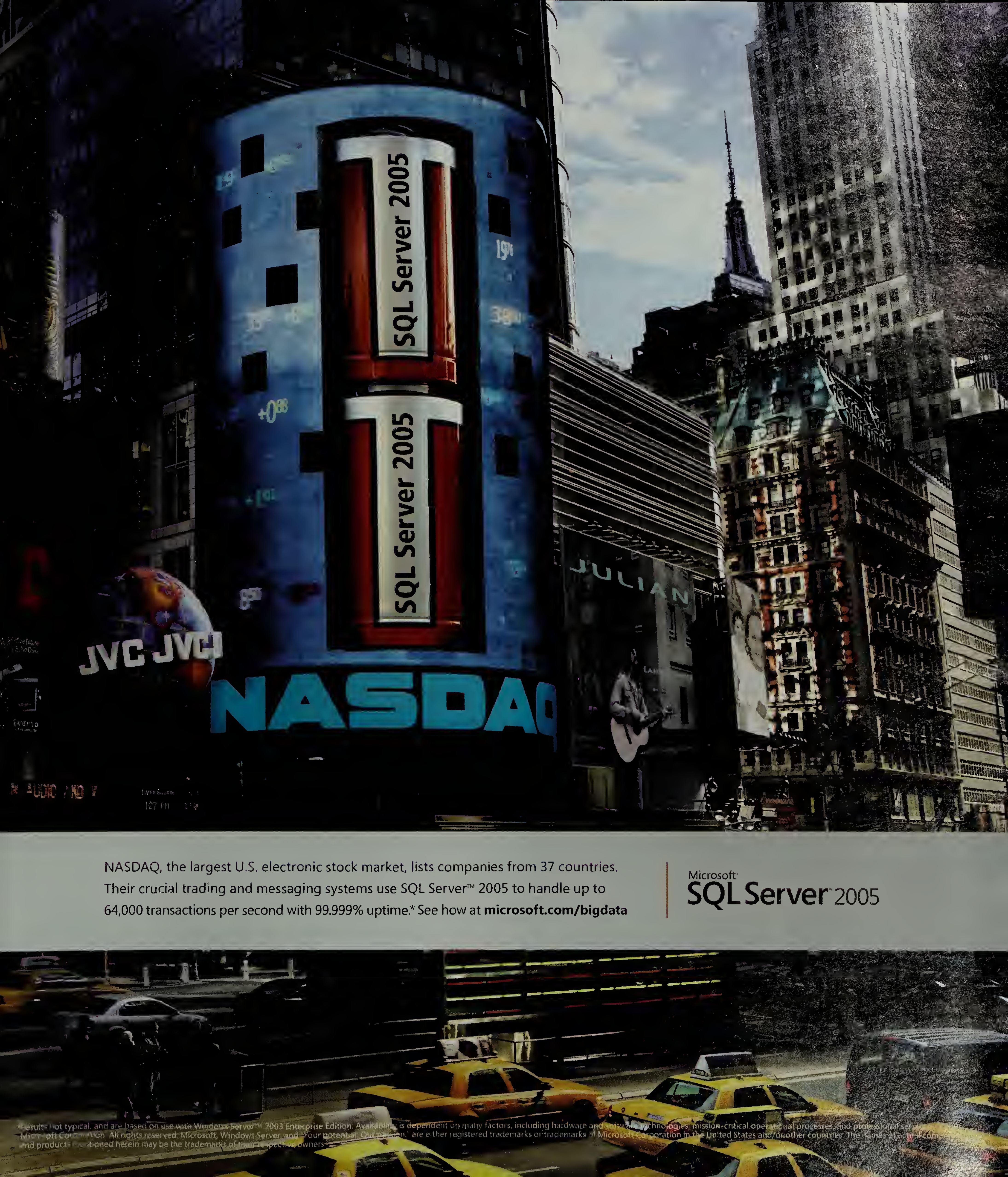

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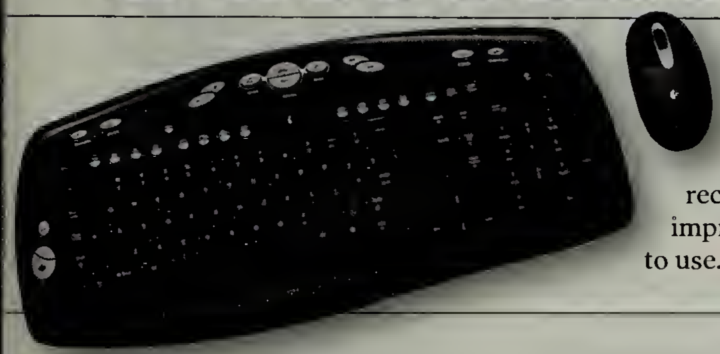

Cool Wireless Stuff

In the Technology section: Some *Computerworld* staffers recommend wireless devices that improve productivity and are fun to use. **Page 29**

The Users' View

In the Management section: Anthropologists such as Alexandra Mack (with Jim Euchner at Pitney Bowes) bring a unique perspective that can help IT overcome its own biases and develop tools that address the way users actually work. **Page 33**

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6 **IBM and Hewlett-Packard** unveil servers based on Intel's next-generation dual-core chips.

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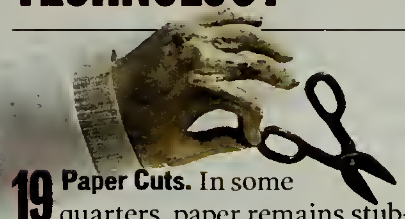

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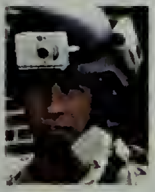

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PAUL GLEN

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YOU WERE EXCEEDING YOUR SPEED LIMIT, SIR!
OOPS. SORRY OFFICER.
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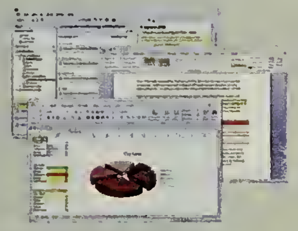

SOFTWARE: Word menus are now "ribbons." Excel offers conditional cell formatting. See these and all the other key changes in the next Office release, and get help answering the question: Should I upgrade?

www.computerworld.com/software

10 Worst WLAN Practices

MOBILE/WIRELESS: From one seemingly innocuous misstep to another, a national retail chain ended up victimized by hackers who set up fake online storefronts to capture customer account information. Consultant John Stehman shares the hard-learned lessons in this report by David Ramel from Mobile & Wireless World.

www.computerworld.com/mobilewireless

Spectrum, Auctions and You

MOBILE/WIRELESS: Columnist Craig J. Mathias explains the origins of spectrum auctions and how they affect your wireless service — and your pocketbook.

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Market Forces

STORAGE: In his weekly "Since You Asked" column, Enterprise Strategy Group's Steve Duplessie responds to a reader who wants to learn how to take advantage of growing competition among data center vendors.

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AT DEADLINE

Symantec Antivirus App Hit by Bug

Security researchers at eEye Digital Security Inc. have discovered a serious flaw in Symantec Corp.'s enterprise antivirus software that could be used by hackers to create a self-replicating worm attack against Symantec users. The vendor is evaluating eEye's claims and "if necessary, will provide a prompt response and solution," a Symantec spokesman said late last week. Versions 10 and higher of Symantec's enterprise antivirus software are affected by the flaw.

Microsoft, NEC Sign Licensing Pact

Microsoft Corp. and NEC Corp. have signed a patent cross-licensing agreement covering IT and networking technology. Under the agreement, the two firms will jointly integrate NEC's Univerge servers with Microsoft's Live Communications Server 2005 to strengthen NEC's VoIP offerings. Microsoft has signed similar deals with Siemens AG, SAP AG and Toshiba Corp. since late 2003.

Novell Sells Its Stake In Consulting Unit

Novell Inc. sold its majority stake in Celerant Consulting to Celerant managers and London-based Caledonia Investments PLC for about $77 million. Novell had acquired an undisclosed stake in the consulting business as part of its 2001 purchase of Cambridge Technology Partners. The sale is part of the cost-cutting plan Novell announced last November.

Holding Firm Agrees To Buy Hummingbird

Symphony Technology Group has agreed to buy Hummingbird Ltd., a Toronto-based maker of content management software, for $465 million. Symphony owns several companies, including Information Resources Inc. and Gers Inc. The acquisition is expected to close in July.

Sun Set to Offer Linux On UltraSparc T1 Chip

To announce this week that Ubuntu will be offered as Solaris equal on T1

BY PATRICK THIBODEAU

IN A major but not unexpected move, Sun Microsystems Inc. this week plans to disclose plans to support the upcoming version of Ubuntu Linux on its UltraSparc T1 chip.

Canonical Ltd., the privately held distributor of Ubuntu Linux, last month announced that an enterprise version of the operating system will ship in June, about six weeks behind schedule.

While some users have ported Linux to UltraSparc systems in recent years to run specific applications, those UltraSparc Linux implementations weren't viewed as alternatives to Sun's own Solaris operating system, said Mike Splain, chief technologist for Sun's scalable systems group.

With the latest release of Ubuntu, Sun will treat Linux as an equal of Solaris, he said. For example, Sun will "make it as easy for [users] to get an Ubuntu port running as we do to get a Solaris port running," Splain said. Therefore, he added, "Solaris has to compete in the marketplace [against Ubuntu Linux] in the same way that Sparc has to compete against x86 and against IBM Power."

Users interviewed last week said they have no immediate plans to replace Solaris with Ubuntu Linux.

Jon Emmons, a database and applications server administrator at Plymouth State University in Plymouth, N.H., said that running Solaris on UltraSparc provides the advantage of using a single vendor, Sun, for support.

Emmons also said that based on his experience, "Solaris tends to be lower maintenance overall" than Linux. He also cited a lack of administrative applications that run on the open-source operating system.

Plymouth State has been testing the eight-core, Solaris-based Sun Fire T2000 Server under Sun's "try and buy" program.

Sun and Canonical, based in Douglas, Isle of Man, are expected to jointly announce the porting of the new Ubuntu Linux 6.06 Long Term Support (LTS) software to UltraSparc T1 this week.

Canonical CEO Mark Shuttleworth said the release of Ubuntu 6.06 marks the beginning of a push by his firm to promote enterprise adoption of the software.

"This is a big new step for us, both in terms of our support for Sparc and because we are quite clearly establishing ourselves as one of the key data center options for Linux," Shuttleworth said.

Ubuntu 6.06

- It's the enterprise version of Ubuntu Linux implementation.
- Technical support from distributor Canonical begins at $700 per year.
- Ubuntu and its security updates are distributed without charge.
- The software will be released in early June.

Early adopters of Ubuntu on UltraSparc T1 systems may face some obstacles because the software lags behind other Linux implementations in certification by independent software vendors, particularly developers of business applications, Shuttleworth acknowledged. Independent software vendors require that operating systems be certified before providing support for their software.

"We're substantially behind Red Hat and SUSE. I'll make no bones about that," Shuttleworth said, adding that "I believe that we will catch them very quickly." Ubuntu has received certifications for some critical systems, such as VMware and DB2, he added.

Mike Cote, an analyst at RedMonk in Denver, said the issue of independent software vendor support, as well as the relative newness of the Linux distribution on Sun's server offerings, will likely make enterprise users reluctant to adopt Linux on the systems.

"It's a very 1.0 sort of thing," said Cote of the new Ubuntu release.

At the same time, he said Sun's decision to allow Linux on its hardware is proof that Sun is getting serious about that operating system. "It's encouraging to see them have something that will compete, frankly, with their own operating system," he said. ▶

IBM, HP Unveil Multicore Servers

BY PATRICK THIBODEAU

The single-core processor is apparently all but history, as major server vendors Hewlett-Packard Co. and IBM last week brought out new systems based on Intel Corp.'s dual-core chips.

With the moves by IBM, HP and others to use the new chips, Intel is projecting that by the end of this year, 85% of all processor shipments from the company will be dual-core, a spokesman said.

The new multicore chips are already a key technology for some users. For example, Austin Energy has already decided to limit server purchases to multicore systems, said CIO Andres Carvallo.

"Multicore servers are key in *n*-tier environments," where applications are distributed among separate computers, such as one for a database and another for business logic, Carvallo said. He noted that the Java language and Oracle database are multithreaded environments. "The more cores you have, the better [the] performance," he said.

HP by late June will largely have dual-core capability across its entire set of two- and four-way servers, "from the least expensive all the way to the top end," said John Gromala, director of server product marketing. HP's remaining single-socket systems will be updated later this year with dual-core capabilities, he said.

Intel Xeon dual-core chips will also be the dominant processor in the new ProLiant and BladeSystem servers HP will ship next month.

HP said the Xeon-based systems will triple the performance of the new systems — not only because of the processors but also as a result of a redesign of the subsystems, including memory, storage and management controllers, to support the new technology.

Meanwhile, IBM announced plans to start shipping three new System x servers running Intel's dual-core chips in June.

Intel's dual-core processors include the low-end Xeon dual-core 5000 series of chips, code-named Dempsey, and high-end systems that will be based on the Xeon 5160 processor, or Woodcrest, which has about 3.1 times the performance of the single-core Xeon processor.

Jonathan Eunice, an analyst at IT research firm Illuminata Inc. in Nashua, N.H., said dual-core systems deliver a performance boost because they can handle multithreaded applications, which can be bandwidth-intensive. ▶

Users Continue RFID Debate

BY MATT HAMBLEN
ORLANDO

The debate over the maturity of radio frequency identification technology continued at *Computerworld*'s Mobile & Wireless World conference here last week, with some attendees touting the positive impact RFID has had at their companies and others saying that the technology still has obstacles to overcome.

COMPUTERWORLD MOBILE & WIRELESS WORLD

Curt Smith, director of application technologies at BP PLC, said the London-based company has seen a 15% increase in its retail sales of 5-quart motor oil containers at Wal-Mart stores in Texas and several nearby states since it began putting passive RFID tags on the containers last year. The improved sales come from BP's ability to better ensure that shipments arrive at stores and that the products are always available on store shelves during promotions, said Smith, who works at the company's office in Warrenville, Ill.

BP has several other RFID projects in the works, including a plan to use tags in its data centers to help IT staffers keep track of servers, routers and switches. In addition, the company is in the early stages of rolling out an RFID system that eventually will be used to track the locations of about 3,000 workers at its Cherry Point refinery in the state of Washington.

The Location Aware Safety System currently tracks about 50 Cherry Point workers via badges equipped with active RFID tags that transmit location information to a network of wireless transmitters. The system is expected to be especially useful for identifying workers who don't report to safety zones during an emergency, Smith said.

BP is using RFID to track motor oil, IT equipment and refinery workers, says CURT SMITH.

At Ford Motor Co., RFID is in use or due to be rolled out at four manufacturing plants, said Ted Thuis, a business process specialist at the automaker. One application, targeted for use at two plants, tracks incoming parts-delivery trucks using active RFID tags that are attached to the vehicles, Thuis said.

At another plant, passive RFID tags are temporarily attached to parts in order to track inventories. At the fourth facility, tags are hung from the rearview mirrors of newly built trucks to track their movements through portions of the supply chain.

Thuis declined to discuss Ford's costs but said his team faces management pressure to show a return on investment. He cited a list of benefits that the RFID technology is helping to provide, including increased supply-chain velocity, product-quality improvements and the ability to use lean manufacturing techniques.

Schon Crouse, a mobility integration analyst at Children's Hospital Inc. in Columbus, Ohio, said the medical facility is gradually deploying Dell laptops with embedded RFID chips to more than 1,000 workers.

One of the first applications under consideration would be aimed at preventing thefts of the laptops by automatically locking exterior doors when one of the devices is brought nearby. But the concept is still under development and has yet to be proved, Crouse said.

St. Luke's Health System Inc. in Kansas City, Mo., is evaluating the use of RFID as a way to track patients at its facilities, CIO John Wade said.

But, Wade noted, the RFID-equipped medical bracelets that would be used in the system need to be lighter so they can be worn by newborns. They also need to be sealed so they can be sterilized for reuse, because they're too expensive to throw away, he said.

"The technology is not there yet," Wade told other attendees during a presentation. ▸

Wireless Apps Pay Off in Unexpected Ways

BY DAVID RAMEL
ORLANDO

ATTENDEES at *Computerworld*'s Mobile & Wireless World conference here last week heard some tales of unexpected benefits that don't show up on corporate balance sheets – such as catching crooks and saving the lives of workers.

For example, Aline Ward, CIO at Southern Co.'s Mississippi Power Co. subsidiary in Gulfport, detailed Southern's experience in rolling out an automated resource management system for functions such as service order dispatch and vehicle location. The system includes radios that broadcast an alert when an emergency button is pushed.

Ward, who is also responsible for all of the power transmission and distribution systems at Atlanta-based Southern, said that soon after the rollout began five years ago, a worker fell out of his bucket truck and was seriously injured.

"He happened to have his radio, and he hit the emergency button," Ward said. "Someone got there very quickly." She added that emergency services workers told Southern the rapid arrival "was very critical to his full recovery." And because the company places the utmost importance on worker safety, she said, the incident "sold the system a lot."

ALINE WARD says Southern's radio system has helped it respond to emergencies.

Another surprise benefit of the technology was the ability to recover stolen trucks, Ward said. Three years ago in Alabama, a field worker radioed that his company truck had been stolen.

Because the wireless system was built to track vehicles, Southern's dispatchers could see the truck on an electronic map. Ward said they notified police and then provided location updates until the truck was recovered, with no damage.

Robert Gregor Jr., manager of telecommunications at the University of Pittsburgh Medical Center, said the health care facility installed a mobile system to give remote workers the same telephone functions they have at their desks.

But after the system was in place, the medical center found that it also helped in retaining employees in areas such as tech support and records transcription, Gregor said. For example, tech support workers were happier because they could be on standby at home instead of having to remain at an office location.

Officials at Cox Communications Inc. were pleasantly surprised when a wireless system helped the Atlanta-based cable TV operator retrieve 15 laptops stolen in Virginia last year.

Al Briggs, director of mobile solutions services at Cox, said the wireless technology was installed primarily to benefit the company's field service workers. However, after the laptops were stolen, he said, "some very enterprising technicians in our group" suggested that the company use the new system to push software to the missing machines to help locate them.

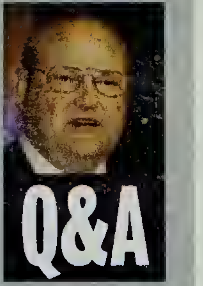
The technicians remotely installed laptop security and tracking software on the PCs, then worked with local authorities to recover the equipment, Briggs said.

He added that the story of the stolen laptops made it all the way up to Cox's CIO, who validated the wireless project's value with a one-word reply: "Cool." ▸

Focus on ROI Too Limiting, Says Intel CIO

ORLANDO

IN A KEYNOTE SPEECH at Mobile & Wireless World, Intel Corp. CIO **John Johnson** detailed a five-year, $25 million initiative aimed at increasing the mobility of workers via laptops, smart phones and related applications. Johnson spoke with *Computerworld* after his talk; excerpts follow.



What's the most important measure of the returns you're getting? We know we get two hours per week per employee of improved productivity, based on a 40-hour week. But the proof of the value is in the decision by users to keep using laptops and handhelds. It's not an IT effort or to reduce head count.

How do you deal with device standardization? We try to limit devices to one supplier for laptops and handhelds. But with PDAs and smart phones, you have to be more liberal because they are changing so fast. Every three months, there's something new.

How much of your job requires you to be intuitive about the value of a new technology versus calculating the return on investment? It's not always easy to predict how you would even do an ROI analysis. You could spend a year figuring out ROI, and then you might have wasted a year. [But] you do need to figure out what the business value proposition is.

So you're saying that leadership matters. Leadership matters, yes. If you approach this technology purely from an ROI perspective, you'll be late.

– MATT HAMBLEN

BRIEFS

Ballmer: Vista May Be Further Delayed

The launch of the consumer version of Windows Vista, Microsoft Corp.'s new operating system, could be pushed back past the stated January launch date, according to Microsoft CEO Steve Ballmer. Vista was first slated to ship in 2006, but in March delivery was pushed back to January 2007. Ballmer said that the launch may slip as a result of feedback from a beta release program and product road maps of hardware vendors.

Hundreds Arrested For Internet Fraud

More than 565 people in North America and Europe were arrested in an international sweep that targeted marketing fraud using the Internet, according to the U.S. Department of Justice. The international effort, called Operation Global Con, has led to the arrest of 139 people in the U.S. and 426 in Canada, Costa Rica, the Netherlands and Spain.

Nokia Opens Source Code of Browser

Nokia Corp. has released the source code for the mobile phone Web browser it developed last year. The company hopes the move will encourage the mobile phone industry to standardize on the technology. Nokia designed the browser for its S60 line of phones with the open-source frameworks Apple Computer Inc. used for its Safari browser, with additional enhancements for mobile browsing.

HP Adds Arrays for Small, Midsize Firms

Hewlett-Packard Co. has added two storage arrays aimed at small to midsize businesses. The StorageWorks Virtual Library System 1002i can store up to 3TB of compressed data, and the StorageWorks MSL4048 tape library stores up to 19.2TB of data. Both the VLS1002i and the MSL4048 ship with Web-based management capabilities.

Continued from page 1

Requirements

Some businesses are also planning to integrate the requirements management process with the rest of the application development life cycle to improve communication between users and developers.

The urgency to improve requirements management processes has prompted some companies to create new positions within IT departments to oversee such efforts.

For example, about six months ago, Ed Barkley was named to the new post of process improvement leader in the IT shop of a large health care company he asked not be named.

Barkley's new role: to implement changes that increase end-user satisfaction with new applications developed in-house. His first order of business: to overhaul the development operation's requirements management process.

"In many cases, we are not delivering to the customers what they wanted," said Barkley, noting that developers often wrongly assume that they understand the needs of their users.

The business people really bought into the requirements process. They are no longer saying, 'Why do I need to do this?'

CONSULTING MANAGER,
BANK OF MONTREAL

"You see how the current requirements are being developed, [and] you discover that the requirements aren't being understood or documented correctly, if at all," by IT developers, said Barkley, who also heads the Kansas City Rational Users Group. "That is the beginning of the problem. [IT] people assume what the customer wants."

Turning to Templates

To help bolster the process at the health care company, IT developers created requirements management templates to provide users with a formal process for listing what they need in new applications.

The company began using the templates this month, Barkley said.

The company hopes use of the templates can first halt the practice of users passing their needs on to developers either verbally or in notes with "large paragraphs of rambling," according to Barkley. The new process also calls for users to approve work on an application at multiple stages of development, he added.

Once the system is in place for an undetermined period, Barkley said, IT will start auditing the process to determine whether user needs are being met and whether users are satisfied with the resulting applications.

If the audit determines that the new process is accepted by users and developers, Barkley said, the health care firm plans to link the templates to IBM Rational's RequisitePro requirements management tool, which it has used intermittently in the past, Barkley said. After that, the company will link the integrated requirements management process with the Rational testing tools it uses, he said.

Brian Kilcourse, chief strategist at Retail Systems Alert Group, a Newton, Mass.-based IT research firm, said the inability to meet user needs at many large companies has offset recent major advances in software development technologies — such as integrated development environments and ever-improving code-generation tools.

"We've been in commercial computing for almost 50 years, and we've automated all kinds of tasks," Kilcourse said. "But requirements management is the one thing we haven't gotten to in any meaningful way."

Kilcourse contended that a lack of communication between users and developers is the primary reason for the problem. "IT people don't sit around designing things nobody wants because they are dumb or they are focused on malfeasance," he said.

Indeed, Carey Schwaber, an analyst at Forrester Research Inc. in Cambridge, Mass., maintains that developer misunderstandings of user requirements are the leading cause of defects in software. Compounding the problem, she added, is the emergence of globally distributed development and government regulations, like

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Dispersed Teams Forcing Closer Look at Managing Requirements

THE CONTINUING worldwide broadening of software development organizations – either with internal employees dispersed geographically or through the use of offshore outsourcers – is further forcing IT operations to improve requirements management processes.

Lufthansa Systems, for example, a Kelsterbach, Germany-based maker of revenue management systems for airlines, turned to a requirements management tool to overcome problems with communicating software requirements to internal developers working in Budapest, said Rainer Bartholdt, head of service management.

The tool set, the MKS Integrity Suite from MKS Inc. in Waterloo, Ontario, replaced a paper-based method of getting user requirements to development teams, Bartholdt said.

The company has been using the MKS integrated source-code repository and requirements management tool set for about 10 months, Bartholdt said. The tool captures business and technical requirements and then links those to developer tasks. It uses predefined workflows to notify users of changes throughout the process, he said.

"Now we have a straight connection from the high-level software requirements to the definitions of the features and the different source-code files," Bartholdt said. "It is transparent to see how requirements are being met with source code."

When companies move development offshore, whether using internal employees or outsourcing firms, they often find that the traditional, informal methods of laying out requirements – such as in a casual conversation – don't work anymore, said Carey Schwaber, an analyst at Forrester Research.

"Their previous lack of discipline doesn't apply, and they don't find out until the software is delivered and it doesn't do what they wanted it to do," Schwaber said.

To bridge the gap between contract developers in Chicago and India, the California State Automobile Association opted to add a simulation tool that provides business users with visual representations of the interface of a new application before any coding is done, to ensure that it meets their needs.

A.J. Goldsmith, vice president of IT plan services at the San Francisco-based automobile association, credits the iRise Studio simulation tool from iRise Inc. in El Segundo, Calif., with cutting development costs by 25% in a project to replace several large legacy systems. In addition, use of the tool has cut testing cycles by 25%, he said.

"Developers can actually see what the end user is expecting," Goldsmith said. "We have a much better picture of what is expected earlier and can hit most of the marks right upfront."

The association plans to use the tool for new projects starting this year, including one to develop a portal.

– HEATHER HAVENSTEIN

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*Potential savings based on IDC White Paper. Ensuring Information Availability: Aligning Customer Needs with an Optimal Investment Strategy.

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*The Radicati Group. Radicati White Paper "Microsoft Exchange 2003 Total Cost of Ownership."

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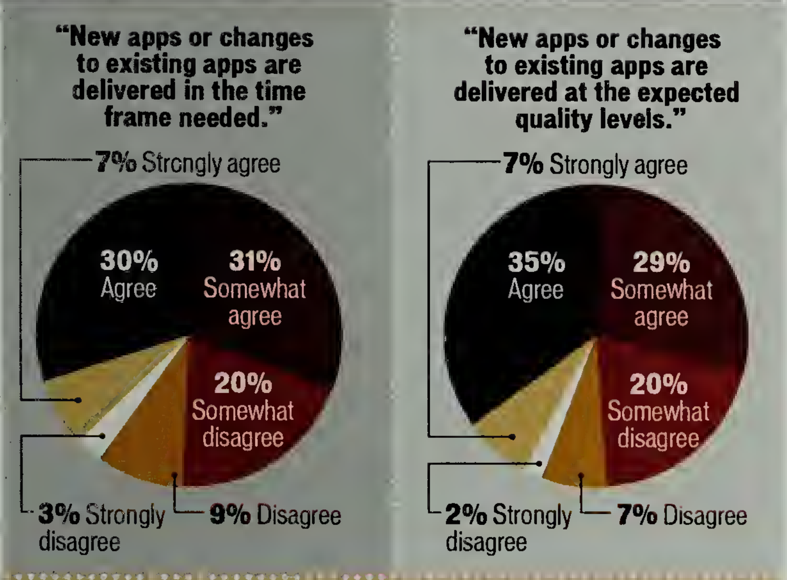
Satisfaction With IT Projects



Base: 418 technology influencers at U.S. companies with more than 500 employees. Each has personally used custom applications developed by their IT organizations.

SOURCE: FORRESTER RESEARCH INC., CAMBRIDGE, MASS., MARCH 2005

the Sarbanes-Oxley Act in the U.S., that require users to prove that their IT systems meet business requirements.

The Internal Revenue Service has been plagued with requirements management problems since it began to replace its tax administration and financial systems seven years ago, according to a report by the Government Accountability Office.

According to the report, released in March, cost overruns and delays have plagued the $1.9 billion IRS project. The report blamed inadequate development and management of requirements, among other things.

As the problems mounted early on in the project, the IRS in October 2004 created the Requirements Management Office. However, the office doesn't expect to have final requirements management policies and procedures in place until March 2007, the report said.

No More Mind Reading

Debra Jensen, vice president of system development at Jack in the Box Inc. in San Diego, said the restaurant chain is currently evaluating requirements management tools as part of an initiative to overhaul the process of collecting requirements from users.

That effort began about a year ago, when the company started using internally built templates to collect user requirements. The process now demands that users formally certify that finished applications meet their needs.

The Jack in the Box IT requirements management overhaul was initiated because in the past, "there [was] a sense that IT should just know the business needs and write the requirements for [users]," Jensen said.

The need to comply with the Sarbanes-Oxley Act has been used by IT to further persuade users to embrace the templates. "We said the auditors were going to be looking for these requirements in writing," Jensen said.

With the first phase of the new process in place and accepted by users, Jensen said, Jack in the Box's IT department is starting to work under the philosophy that if business users don't have time to define requirements, "we don't have the time to implement them."

Further down the line, Jensen said, the company plans to buy a business process engineering tool that will be integrated with the requirements management product it chooses. Such an integration promises to create a system that can automatically capture the various requirements associated with specific business processes, such as order processing, she added.

The Workplace Safety and Insurance Board in Toronto, which manages Ontario's workplace safety initiatives and provides disability benefits, recently purchased IBM Rational's Portfolio Manager tool to better align the requirements management process with the rest of the development life cycle.

Vitalie Temnenco, an architect in the organization, said the board plans to integrate the Rational tool with the SteelTrace Catalyze requirements management tool from Detroit-based Compuware Corp., which the agency already uses. IT developers will use a Catalyze adapter to integrate the tools.

Temnenco wouldn't speculate on when the integration project will start but did note that the board is planning to train its developers, business architects and requirements analysts to use the integrated tool set.

"If we feed all the requirements information into the portfolio management tool, we'll be able to provide for a quick turnaround of project data," he said. "Ideally, we would reach a new real-time process."

Clearer Communication

New York-based OgilvyOne North America, the direct marketing arm of advertising company Ogilvy Group, plans to acquire an enterprise license for the Catalyze tool before the end of this year,

> In many cases we are not delivering to the customers what they wanted. You see how the current requirements are being developed, [and] you discover that the requirements aren't being understood or documented correctly, if at all, [by IT developers]. That is the beginning of the problem. [IT] people assume what the customer wants.
>
> [illegible] KLEY, PROCESS IMPROVEMENT LEADER AT A LARGE HEALTH CARE FIRM

said Jonathan Karpoff, senior partner and director of information architecture at New York-based OgilvyOne.

The company currently has three individual licenses for the software, he said. The number of developers using the tool will at least triple with the new license, he noted.

At the same time, Karpoff said OgilvyOne may soon integrate the Catalyze tool with Rational development, testing and quality assurance tools it is evaluating for purchase. Such an integrated system could dramatically lessen the number of communication mixups that routinely occur during telephone conversations between groups of users and development teams, he said.

The company has used Catalyze for the past year and a half to gather and manage requirements for the Web sites it builds for external clients. "It allows us to identify issues, conflicts, things that we and the stakeholders had not thought about previously," Karpoff said.

The Requirements Management Business Analysis Center of Competency in the Bank of Montreal has completed implementation of a requirements management process and now plans to start an effort to expand it to help the bank reuse user prerequisites, said Kathleen Barret, consulting manager at the center.

Barret said talk of reuse only became serious after users accepted a formal requirements management process. "The business people really bought into the requirements process," she said. "They are no longer saying, 'Why do I need to do this?' "

The latest effort will begin later this year with the launch of several workshops to train the bank's business analysts and developers on the need to document the requirements for certain business processes — like retrieving a customer profile — so that they can be reused, she said.

Barret noted that applications could have varying requirements for the same business process, and with 800 applications in production, reusing requirements could generate substantial savings.

"We need to articulate what is involved on a step-by-step basis in retrieving a customer profile [and] identify what will be automated and capture it in requirements," Barret said.

The bank has been focusing on streamlining requirements management since 2003, when it identified the process as being the weakest in the IT shop, she said. The effort began in earnest in late 2004 with the installation of a requirements management tool from Telelogic AB. ▶

Vendor Plans

Gorilla Logic Inc.: Unveiled a new Unified Modeling Language simulation tool this month that lets users create simulations of applications before writing code; the tool integrates with several IBM Rational products.

Borland Software Corp.: Rolled out a new requirements definition and management suite last month with a tool for visualizing requirements definitions.

iRise Inc.: In April, launched iRise Manager, a tool for documenting, managing and tracing requirements; integrates with iRise's simulation product.

Compuware: Added SteelTrace requirements management tools to its application life-cycle management products after buying that firm last month.

BRIEFS

Qualcomm Sues Nokia in U.K. Court

Qualcomm Inc. has filed a new patent-infringement lawsuit against mobile phone maker Nokia Corp., this time in the U.K. The lawsuit, which charges that Nokia has infringed on two Qualcomm patents, is an extension of legal action Qualcomm brought against Nokia in the U.S. late last year. Qualcomm is seeking an injunction against Nokia and damages for phones already sold.

Microsoft Acquires Virtualization Vendor

Microsoft Corp. has acquired Softricity Inc., a provider of software to virtualize applications or stream them on demand to client PCs, for an undisclosed price. Microsoft said it will use the Softricity tools to reduce application incompatibilities that arise, for instance, if a user running Windows Vista needs access to an application that runs only on Windows 2000 or XP.

RFID Standards To Receive Update

AT&T Inc. has signed agreements with BEA Systems Inc., Symbol Technologies Inc. and Intel Corp. to create a reference architecture for radio frequency identification readers and sensors. The effort is supported by several standards groups, including the Internet Engineering Task Force and EPCglobal US, an affiliate of EPCglobal Inc. The vendors said the effort aims to make RFID more manageable for users.

RightNow Buys Hosted CRM Rival

RightNow Technologies Inc., a provider of hosted CRM software, has agreed to acquire Salesnet Inc., a privately held CRM firm, for $9 million in cash. Both companies use the so-called software-as-a-service sales model. RightNow CEO Greg Gianforte said the acquisition will accelerate his firm's product road map, especially for sales force automation tools, by more than a year.

ON THE MARK

HOT TECHNOLOGY TRENDS, NEW PRODUCT NEWS AND INDUSTRY BUZZ BY MARK HALL

YOU WERE EXCEEDING YOUR SPEED LIMIT, SIR!
OOPS. SORRY, OFFICER.
Wi-Fi CAFE

MATTHEW FAULKNER

Myths About Wi-Fi Confront Urban . . .

. . . network planners preparing their cities for the wireless frontier. Los Angeles, Philadelphia, San Francisco, Portland, Ore., and other U.S. cities are in various phases of installing municipal wireless broadband networks. But truth be told, there are a couple of tall tales surrounding municipal Wi-Fi that need to be exposed in order "to manage consumer expectations," says Frank Hanzlik, managing director of the Wi-Fi Alliance, a product certification group in Austin. "*Free* is a myth, and *everywhere* is a myth," Hanzlik says. Indeed, Steve Reneker, CIO for the city of Riverside, Calif., says an ongoing Wi-Fi deployment there will be tiered — same as in Philadelphia and other places. Free service will be restricted to throughput of up to 1Mbit/sec., Reneker says, and users will have to pay an access charge for everything above that. Hanzlik also warns local officials who are promising citizens that their entire city will be blanketed with Wi-Fi coverage to prepare for a backlash. "Cellular networks started 20 years ago, and coverage remains spotty," he observes. In addition, Hanzlik predicts that end users will start overloading networks with unanticipated bandwidth demands from voice-over-IP (VoIP) and multimedia applications. That could bring networks to their knees if cities don't plan for such demands. "It's not about deploying access points and declaring victory," Hanzlik concludes. The bandwidth wars never end.

86
Number of SQUARE MILES to be covered by Wi-Fi network in Riverside, Calif.

You don't need your laptop if you're . . .

. . . carrying your cell phone. You can access your desktop computer, run apps, download data and even make or receive PC-based VoIP calls via your cell phone using new technology from SoonR Inc. in Campbell, Calif. According to CEO Martin Frid-Nielsen, a trio of tools now in beta and scheduled for release this summer — SoonR Talk, SoonR Organizer and SoonR Desktop — lets roaming end users equipped with cell phones work with the PCs they left back in the office. They can send e-mail from Outlook and use instant messaging and virtually anything else on more than 400 types of mobile handsets, he says. Most of the services will be free, Frid-Nielsen says, but the firm will charge for premium offerings such as storing needed files in the SoonR "cloud" while your PC is turned off. SoonR plans to add Macintosh support later this year.

FRID-NIELSEN: Turn your cell phone into your PC.

HP exec: No end in sight for Unix, the . . .

. . . data center workhorse. Finding fault with a recent editorial in these pages opining that Linux was pushing Unix out of the data center ("The End of Unix?" May 15), Donald Jenkins, vice president of Hewlett-Packard Co.'s business-critical server group, suggests the author overlooked the critical role vendors play in "integrating all the pieces of Unix." Jenkins acknowledges that for individual functions, "Linux and Unix will be equivalent." However, full integration and management of an operating system's functions require a major vendor's commitment, he argues. If it's not there, "the customer has to do the last mile of system integration." And that, Jenkins says, is unrealistic. This week, IBM, of all companies, is upping its commitment to HP's Unix operating system by announcing that it is tripling the number of applications it will port to HP-UX running on HP's Itanium-based Integrity servers. That includes powerhouse apps like IBM's Tivoli and WebSphere product lines — something Jenkins believes will only broaden the appeal of HP-UX to IT managers. Editorial writers take note.

JENKINS: Lots of life is left in Unix.

IT automation isn't just nice, it's . . .

. . . becoming an absolute necessity. So says Tim Howes, chief technology officer at Opsware Inc. in Sunnyvale, Calif. IT shops are inundated with software, storage and system management chores that are becoming overwhelming, Howes says. Market research firm IDC estimates that by 2008, you will be overseeing a total of 65 million devices globally — with that number doubling every four years. Adding staff doesn't help much, Howes says. More people means more mistakes, less control over change-control operations and increased communication problems. "Every person you add is like throwing gasoline on the fire," he says. Plus, he claims, IT labor costs surpassed hardware investments back in 2001, so you know CFOs are watching that budget line carefully. What to do? Automate anything you can, Howes suggests. Preferably with his company's network, server and asset management software. Opsware's tools let you centralize policies for change control, provisioning, patch management and other complex tasks. The Network Automation System, shipping this week, supports gear from 33 networking vendors. In July, Opsware will ship Visual Application Manager, which identifies software assets and creates physical and logical views of their deployments and application dependencies. Opsware's pricing starts at around $100,000. ▶

8,247
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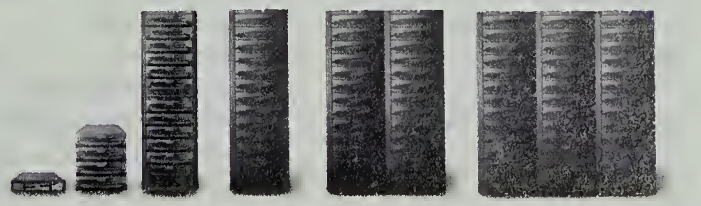

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Word Flaw Doesn't Need Fast Fix, Microsoft Says

Security exec defends monthly patch releases, says users want predictability

BY JAIKUMAR VIJAYAN

MICROSOFT CORP. last week advised users to run Word in "safe mode" to help guard against a Trojan horse program that seeks to exploit an unpatched vulnerability in the word processing software. The company said it will issue a patch as part of its monthly security update on June 13, or earlier if necessary. **Bret Arsenault**, Microsoft's chief security adviser and general manager of U.S. enterprise security, spoke with *Computerworld* about why the software vendor currently doesn't see the need to release an out-of-cycle fix for the flaw.

How do you plan to address the security flaw in Word? The plan right now is to release a patch on June 13 as part of the regular [monthly] update. We are monitoring the number of infections and what the impacts to customers are. We recognize the seriousness of the issue. We're going through our regression testing, which is, of course, to make sure that we have the right fix and it is of the right quality. The worst thing to do is to install something out of band and then have to redo it again a second or third time.

This isn't the first time an exploit has become available for an unpatched vulnerability in your software. Is it causing you to review your patch release cycle? We always have to balance the timeliness of the patch with what the current threat is to the customer. If the threat level becomes severe enough, we will release something out of [the monthly cycle]. But we try to limit our out-of-band [patches], because what our customers have asked us to do is to be predictable.

In this scenario, we are not happy with the [disclosure] process [the flaw] went through. We have an outreach program for vulnerability finders. We work hard to do responsible vulnerability disclosure, and by somebody not reporting this to the vendor, it is customers who are paying the price.

What do you think of the role third parties have played in releasing interim patches for these types of flaws? Is that putting pressure on Microsoft to release its fixes more quickly? I don't think there is any more pressure than protecting our customers. I don't really have a comment on what others do as far as providing patches is concerned. The important thing is for customers to evaluate if the patches have been tested for all the platforms they run and if it is of the same quality they want it to be.

What you are seeing is the time to exploit has been shrinking [over] the last few years. We recognize that; the industry recognizes that. And patching is not the answer. The answer is defense in depth. In this case, if your antivirus signature is up to date, it will catch this [flaw] at the client.

So is a monthly patch release still good enough? We're always evaluating what the right cycle is. So far, the customer feedback has been to stay on this one-month cycle and to monitor how many of these out-of-bands we actually have to do.

The last one was in January, and the previous one, I think, was 22 months before that. So if you look at it in the overall context, it has been a pretty limited number. ▸

Hitachi Updates TagmaStore

BY SHARON FISHER

Applying a "midlife kicker" to its TagmaStore Universal Storage Platform (USP), Hitachi Data Systems Corp. last week unveiled a new version of the storage system that boosts its performance by 25%.

The USP storage array includes updated virtualization capabilities that can link it to multivendor storage boxes. Once the arrays are linked, the virtualization capability allows all of them to be managed as a single pool, HDS said.

Al Todd, manager of information technology services at Pacific Capital Bancorp in Santa Barbara, Calif., said he is interested in the system's upgraded Universal Replicator software, which lets users mirror up to four storage arrays. The previous version supported only a single array.

However, Todd will likely wait a year or so before formally evaluating the updated system because he's happy with another of the company's mirroring tools, called TrueCopy, which he now uses.

Over the long term, though, Todd said he expects to replace TrueCopy with Universal Replicator.

The updated Universal Replicator's ability to distribute data to up to four TagmaStore USPs should be of interest to very large users — users with multiple sites who are using a primary site where the data is located, a "hot site" for backup and a remote recovery site for disaster recovery, said John Webster, founder of research firm Data Mobility Group LLC in Nashua, N.H.

Santa Clara, Calif.-based HDS said the updated TagmaStore array also includes improved ShadowImage performance-mirroring software. The updated software can support 128 concurrent operations, compared with 32 in the current version.

HDS engineers tweaked the microcode in the array to improve the product's performance by 25%, said Claus Mikkelsen, chief scientist at HDS. In addition, a new audit volume-logging capability can help users track access to the data, he said.

Hitachi said it has shipped more than 3,000 of the TagmaStore arrays since the first version started shipping a year and a half ago.

The USP array's virtualization capabilities are used in about 40% to 50% of installed systems, "a pretty amazing take-up," according to David Floyer, chief technology officer at Framingham, Mass.-based Barometrix Software Corp.

The Universal Replicator will be available by the end of June, starting at $20,000.

The ShadowImage In-System Replication software is priced from $10,000 and is available now. ▸

Microsoft Ups Security in Vista

CHICAGO

A MICROSOFT official said last week that encryption and policy-control functions being built into Windows Vista are designed to make it easier for corporate users to protect themselves against data compromises such as the one disclosed by the U.S. Department of Veterans Affairs last Monday.

For instance, Windows Vista includes BitLocker, a technology that will enable companies to encrypt all of the data on their hard drives using 1,024-bit encryption, said Mike Chan, a senior technical product manager for Microsoft's Vista team. With BitLocker, the keys used to encrypt data aren't stored on a PC's hard drive. Instead, they're kept on a separate Trusted Platform Module microchip mounted on the system's motherboard, allowing for full encryption of the hard drive, Chan said.

During a speech at the Microsoft Security Summit here last week, Chan said that the software vendor's goal is to give users a way to protect sensitive data from being compromised even if a computer or hard drive is lost or stolen.

The built-in support for data encryption is useful, but a lot depends on the key-management and key-recovery capabilities that Microsoft offers in Windows Vista, said Lloyd Hession, chief security officer at BT Radianz, a New York-based company that provides telecommunications services to financial services firms.

"Encryption at the OS level is a good thing," Hession said. But the problem with encryption in general has been the issue of data recovery, he added. It's one of the reasons why few companies encrypt data at the desktop level, despite the potential benefits, Hession said.

Meanwhile, the Group Policy Console feature in Windows Vista will give IT administrators much greater control over end-user systems, Chan said. For instance, with the new controls, administrators could enforce policies that prevent end users from connecting USB thumb drives to their systems without explicit authorization, he said. That approach is "much superior to the old method of caulking" USB ports, or even using Super Glue on them, to prevent improper used, Chan added.

The lockdown capability is part of the broader set of User Account Control (UAC) features aimed at limiting the administrator-level access that Windows users typically have had on their PCs.

Support for functions like UAC will finally give Windows some of the security functions that have been available in rival operating systems such as Unix for years, said Andrew Jacquith, an analyst at Yankee Group Research Inc. in Boston. But Microsoft needs to ensure that the functionality doesn't come at the cost of usability and compatibility with previous applications, he noted.

– JAIKUMAR VIJAYAN

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GLOBALDISPATCHES An International IT News Digest

EU Slow to Progress On 'Digital Economy'

BRUSSELS

THE EUROPEAN COMMISSION has accused most of the European Union's 25 member nations of failing to live up to promises they made a year ago to upgrade their information and communications technology market sectors.

In the EC's first annual report on i2010, the digital economy portion of its so-called Lisbon strategy to spur growth in the region, the commission called on European countries to step up their efforts to improve access to broadband Internet connections.

The report, issued last week, also said that most EU members haven't sufficiently improved the circulation of digital content or freed up radio spectrum to support new wireless applications.

"Europe's policies for the digital economy have made some progress, but I do not think that this is good enough," said Viviane Reding, the EU's commissioner for information society and media. The report showed that IT is contributing less to productivity improvements in Europe today than it did 10 years ago, she said.

■ PAUL MELLER, IDG NEWS SERVICE

GLOBAL FACT

€28.1M

Amount of venture capital ($36.2 million U.S.) that was invested in Irish technology vendors during the first quarter. The overall VC investment in Ireland during the quarter was €29.1 million.

SOURCE: ERNST & YOUNG/DOW JONES EUROPEAN VC REPORT

Microsoft, China Sign Deal for R&D Centers

BEIJING

MICROSOFT CORP. has agreed to help China's Ministry of Information Industry (MII) build several research and development centers in an effort to boost economic development in China's rural areas.

Under the terms of a memorandum of understanding that Microsoft CEO Steve Ballmer signed at a press conference in Beijing last week, the software vendor will spend 250 million renminbi ($31.2 million U.S.) over the next five years to fund the construction of the facilities. The research centers, to be run jointly by Microsoft and the MII, will develop new .Net technology and applications, the company said.

In addition, Microsoft agreed to train more than 70,000 new software engineers through a combination of classroom instruction and distance learning. The new deal follows Microsoft's announcement last month that it would spend $900 million over the next five years on purchases from and investments in Chinese IT vendors.

■ SUMNER LEMON, IDG NEWS SERVICE

Defense Agency Plans To Sell Used IT Gear

SYDNEY

AUSTRALIA'S Department of Defense is conducting a winner-take-all auction to sell off aging computer and network devices that are filling one of its warehouses.

Up to 200 pallets of desktop and notebook PCs, monitors, printers, servers and networking equipment are being offered on an "as is, where is" basis, the agency said. The equipment has been classified as "sanitized," meaning that all disk drives and other data storage devices have been removed from devices such as PCs and servers.

Bids will be accepted only for all of the pallets. A spokesman for the Department of Defense wouldn't predict how much money will be raised through the sale, saying that "no bottom line" has been set.

■ RODNEY GEDDA,
COMPUTERWORLD TODAY (AUSTRALIA)

Compiled by Mike Bucken.

Briefly Noted

Skype Ltd., a Luxembourg-based unit of eBay Inc., is advising users to upgrade to the latest version of its VoIP software to fix a security flaw reported this month by a researcher in New Zealand. The bug affects several versions of the Skype client for Windows and could enable an attacker to download files from an affected PC.

■ JAMES NICCOLAI, IDG NEWS SERVICE

The Australia and New Zealand Banking Group Ltd. said it double-charged 200,000 MasterCard customers who used its ATMs to get cash advances, after a computer glitch duplicated their transactions. A spokesman said the glitch was caused by human error during a routine maintenance check earlier this month. The bank refunded the overcharges, which totaled 45 million Australian dollars ($34.1 million U.S.).

■ MITCHELL BINGEMANN,
COMPUTERWORLD TODAY (AUSTRALIA)

SAP AG last week opened a software services center in São Leopoldo, Brazil, and said it plans to hire up to 80 employees there by year's end. The facility will do custom development and localization work for customers in Latin and North America, SAP said. It will be located at the University of Vale do Rio dos Sinos.

Business, Not Technology, Should Be IT Focus, Panel Says

BY MARC L. SONGINI
CHICAGO

A CIO's work should spread far beyond a corporate IT department, suggested a panel of IT leaders from the retail industry at the Retail Systems 2006 conference here last week.

Top IT executives must work with colleagues in operational posts and then make sure their departments support corporate business processes now and into the future, they said.

The CIOs on the panel all emphasized the need to make technology subservient to business processes. Following that rule, they said, should ensure that IT departments contribute to the corporate bottom line.

"We [in IT] think every year of revenue enhancement and cost-saving opportunities," said panelist Joshua Jewett, CIO at Family Dollar Stores Inc., a Matthews, N.C.-based retail chain.

"There is a danger for a CIO to be seen as being too much associated with just technology," Jewett said. "Technology rarely delivers a return on investment on its own. Technology facilitates a business vision. It doesn't provide that vision and doesn't make it happen."

Jewett said he works with the business side of Family Dollar to formulate a business vision and to create cross-functional teams of IT and business personnel to find solutions that meet that vision.

In general, he said, major IT projects at Family Dollar include a dedicated business sponsor charged with deriving a return from the project.

Business departments at the retailer also collaborate with IT staffers to formulate multiyear technology road maps that ensure alignment with IT. As part of these processes, Jewett said, he often has to help filter out bad proposals from the viable ones.

Mike Jones, CIO at Michael's Stores Inc., an Irving, Texas-based retailer of arts and crafts supplies, said he doesn't simply propose technology systems for his firm but rather offers technology solutions that can solve business problems.

Added Ken Brame, CIO at AutoZone Inc., a Memphis-based auto parts retailer, "If I haven't delivered the business benefit, I haven't achieved success."

> **"Technology facilitates a business vision. It doesn't provide that vision and doesn't make it happen.**
>
> **JOSHUA JEWETT**, CIO,
> FAMILY DOLLAR STORES INC.

He noted that part of his role is to work with senior executives in other areas of the company, such as merchandising and supply chain operations, to devise practical IT systems.

"We, as CIOs, see the company top to bottom and side to side," Brame said. "It's a unique opportunity to cross boundaries and provide leadership to use these [technical] innovations to make things happen."

CIOs must also keep an eye toward future needs and plan for possible problems before they turn up, Brame said. "If we wait for a problem to appear to find a solution, we're dead," he said.

The CIO's role also involves learning how to embrace business change, said Janet Sherlock, CIO at Calico Corners, a Kennett Square, Pa.-based fabric retailer.

"The CIO's role is not just chief information officer but the chief process officer," she said. The job of IT personnel "is not just about implementing a system. They're responsible for the full service success and not just measured by being on time and on budget.

"Success is the moment after the implementation," Sherlock said, "and the business users forget what it was like before implementing that system or enhancement." ▶

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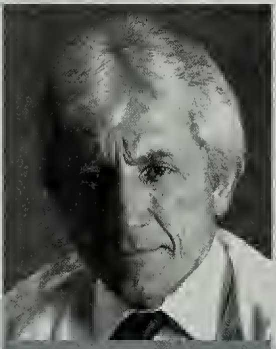
DON TENNANT

Distorting Reality

ON APRIL 25, two members of the U.S.-China Commission, a body established by Congress to monitor the economic relationship between the two countries, wrote a letter to Virginia Congressman Frank Wolf to express their concern about the security implications of the State Department's acquisition of $13 million worth of PCs from Lenovo Group Ltd. Specifically, the commissioners were alarmed that 900 of the 15,000 PCs purchased under the contract were slated to be used in a network that carries classified information.


DON TENNANT is editor in chief of *Computerworld*. Contact him at **don_tennant@computerworld.com.**

The problem, the commissioners explained, was that since "Lenovo is owned in part by the government of China," the deal "will potentially give the Chinese access to . . . the inner workings of the Department of State on issues ranging from human rights to Taiwan to arms control negotiations to countless other areas."

On May 4, Wolf sent a letter to Secretary of State Condoleezza Rice to convey the concern of the commissioners and to urge the State Department not to use the computers in the classified network, since they were "produced by a Chinese-owned company." On May 18, Wolf announced that his advice had been heeded. The State Department, he proclaimed, had agreed not to use PCs from the "Chinese-owned company" to transmit classified information. In the statement, Wolf also referred to Lenovo as "a China-based company."

Now, let's back up. The letter from the members of the U.S.-China Commission referred to Lenovo as being "owned in part by the government of China." That is correct. Forty-two percent of Lenovo is held by Legend Holdings Ltd., which in turn is owned by the Chinese Academy of Sciences (65%) and the Employees' Shareholding Society of Legend Holdings Ltd. (35%). And the other 58% of Lenovo? Well, 34.7% is owned by public shareholders. (Lenovo is traded on the Stock Exchange of Hong Kong.) IBM owns 13.2%, and an investment group made up of Texas Pacific Group, General Atlantic LLC and Newbridge Capital LLC owns 10.1%.

Wolf, you see, distorted reality when he took the liberty of referring to Lenovo as a "Chinese-owned company." And claiming that Lenovo is a "China-based company" distorts reality just as shamelessly. Yes, Lenovo is incorporated in Hong Kong and has extensive operations in China (name a successful computer products manufacturer that doesn't). But it isn't based in China. Lenovo recently relocated its headquarters — not from China, but from Purchase, N.Y., to Raleigh, N.C. That's where Lenovo is run by people like CEO William Amelio, CIO Steven Bandrowczak (formerly the CIO at DHL Americas and a 2004 *Computerworld* Premier 100 honoree), and senior vice presidents Deepak Advani, Milko Van Duijl, Ravi Marwaha, William Matson, Frances O'Sullivan, James Shaughnessy and Scott Smith.

So, no, Congressman, it's not accurate to say that Lenovo is "Chinese-owned" or that it's "China-based." But there is enough truth in those claims to sow doubt, distrust and fear. That's why you got what you wanted.

Given the company's Chinese roots, does the use of Lenovo PCs in a classified network constitute a security risk? I can't see how they pose any more of a threat than PCs made by a company with a different mix of shareholders. But I respect the viewpoint of those who argue that we should err on the side of caution.

My problem is with the use of misinformation to build the argument. It simply isn't the way our government should operate. If we have to pay $780,000 for another 900 PCs from a different vendor, we deserve to be told why without having reality distorted. ▶

Don Tennant

VIRGINIA ROBBINS

Get Serious About Vacations

IT WAS another beautiful, sunny day in Napa. The grape leaves in the vineyard around the office were a sheer, pale green, catching the light as I entered our building. I whizzed by my boss's admin on my way to my desk. She uncharacteristically called out my name. Giving me a puzzled look, she asked if I was going to be on vacation in June. Yes, I answered. Well, she inquired, was I planning on participating in our team-building session — the one I had planned — by phone?

I'm usually pretty anal about meetings and deadlines. I couldn't believe I'd scheduled a major meeting in the middle of my vacation. I turned white, and she started laughing. She told me she'd help take care of it and then accused me of being in vacation denial.

VIRGINIA ROBBINS is a former CIO and is now chief operations officer at North Bay Bancorp in Napa, Calif. Contact her at **vrobbins@sbcglobal.net.**

Vacation denial? Philosophically, there's no way. Sure, it's a new job with a new team, and there's a lot to do. But getting away is still mandatory. And my vacation will be the best way to learn whether key controls and contingency plans are working. But I still hadn't blocked the time off on my calendar. If admitting I have a problem is the first step toward recovery, then here it is: "Hello, my name is Virginia, and I'm a workaholic."

If you've planned your vacations this year, good for you. This article is not for you. It's for all you geeks out there who love what you do, need to have control and know deep down that, well, Bob isn't really quite as good as you are. Now is the season for you to let go.

Facing my denial, I realized that I needed to change priorities. I needed to make sure that my documentation was in place; that the work that

Bill Hilf and Boyd Davis

From: Bill Hilf (Microsoft) and Boyd Davis (Intel)
Sent: May 1, 2006, 2:51 PM
To: Information Technology Professionals
Subject: Windows Server 2003 and Intel 64-bit Servers: The industry standard for mission-critical applications

We are at the rise of the fourth great era in enterprise computing. First there were mainframes which offered companies the benefits of time sharing computing. Next came the era of mini-computers, which allowed more companies to own their own lower cost but proprietary systems. UNIX then went further by providing a level of compatibility at the operating system level, but still used vendor specific hardware platforms. However, all of these platforms came up short in the areas of cross vendor compatibility, price for performance, and their ability to keep pace with technology innovation. Intel® architecture–based servers running Microsoft® Windows Server™ have blossomed over the last decade by combining the benefits of the previous eras, while addressing the shortcomings of previous platforms.

As a result, the combination of Windows Server 2003 and Intel® Itanium® 2 processor–based 64-bit servers gives customers a cost-effective, robust solution for mission-critical applications. Microsoft and Intel have worked together for several years on this enterprise-class server solution, and have optimized it for running the most demanding enterprise workloads, which include transaction processing, data mining, business intelligence (BI), ERP applications, and extreme-scale high performance computing. This year marks an inflection point when 64-bit capable Intel server platforms will represent the majority of Intel platform shipments.

This combination has additional benefits, especially for users looking to replace aging RISC-based UNIX systems.

- The Intel® Itanium® 2 micro architecture is a native 64-bit platform.

- Windows Server 2003 on Itanium-based systems provides scalability and reliability to rival established UNIX systems.

- Intel® Itanium® 2–based servers running Windows Server 2003 offer many of the same capabilities and features as UNIX.

- Virtually all UNIX-based commercial applications also run on the Microsoft and Intel platform.

Additionally, Microsoft has just launched Windows Server 2003 R2 x 64 Edition for Intel® 64-bit Xeon processor–based servers. These systems now include the ability to natively run custom 32- and 64-bit UNIX applications and scripts, share files with UNIX systems, and provide centralized identity and security services for UNIX systems.

However, what really differentiates an Intel platform running Windows Server 2003 is what you get beyond what RISC UNIX can provide. A Microsoft and Intel platform offers substantially more functionality for lower cost, broader vendor choice for innovative solutions, and reduced complexity.

At Intel and Microsoft, we have worked hard to make the combination of Windows Server 2003 and Itanium 2–based servers the most compelling mission-critical platform to date. We have also created new technologies and programs to make the transition from UNIX as easy as possible. We invite you to review the following pages to learn more about how our solutions have enabled CompUSA, Rayovac, and others to transition to the higher value, lower cost Microsoft and Intel mission-critical platform.

Bill Hilf
General Manager
Microsoft's Platform Strategy Group

Boyd Davis
General Manager
Intel's Server Platforms Group Marketing

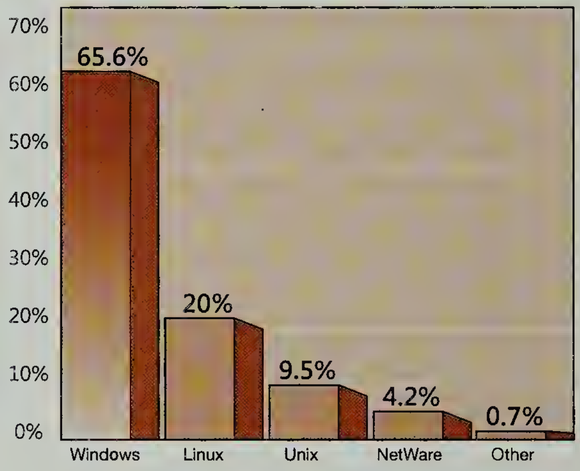
The Enterprise Computing Revolution

In the 1990s, Windows® running on Intel architecture computers was widely used for business desktop computing. A broad market emerged for Windows-based Intel architecture systems with a diverse selection of hardware and software solutions. Microsoft and Intel recognized an opportunity to carry the success and affordability of "PC economics" to customers in the server world. Over the last decade, the Microsoft and Intel ecosystem has grown to offer customers a greater choice of hardware and software solutions, compatibility across systems, and enterprise class reliability and performance—all at a much lower cost than UNIX.

With the broad range of 32-bit and 64-bit processor offerings from Intel, Windows Server solutions can address any mission-critical workload.

Driven by this new hardware/software standard, over 65% of new servers now ship with Windows Server on Intel architecture hardware, according to IDC.[1]

World Wide Server Shipments 2005



Source: IDC Quarterly Server Tracker, February 2006

Windows Server 2003 and Intel 64-bit Servers: An Industry Standard for Mission-Critical Computing.

Customers considering the Microsoft and Intel platform for traditional UNIX workloads are typically looking for comparable enterprise abilities and compatibility with existing applications.

Enterprise Abilities
"Enterprise abilities" refer to essential enterprise capabilities such as scalability and reliability. To address these requirements, Intel starts with the 64-bit EPIC (Explicitly Parallel Instruction Computing) technology—the cornerstone of the Intel Itanium architecture. EPIC provides 1024 terabytes of memory addressability and advanced parallelism capabilities to address current and future scalability requirements of high-end enterprise workloads.

> **"Based on our primary research, Windows Server was the leading platform for UNIX migration with 45% of the volume. The Windows Server platform today has more ISV packaged application support and market coverage from ISV suppliers than the Linux platform does. As a result, IDC believes that it is unrealistic to expect that Linux can tackle the full range of UNIX workloads today." *Understanding UNIX Migration: A Demand-Side View January 2006***
>
> **– Matt Eastwood, Vice President, Enterprise Services, IDC**

Microsoft Windows Server 2003 has been designed to optimize both 32-bit and 64-bit architectures and can achieve record breaking performance in both scale-out and scale-up solution architectures.

Windows Server 2003 running on an Intel Itanium processor system has long been one of the highest performance systems listed in the industry-recognized TPC-C benchmarks.[2] In partnership with dozens of enterprise providers such as HP, IBM, Fujitsu, NEC, and Unisys, server platforms ranging from single processor rack-mount systems to multi-processor mainframes allow customers to achieve scalability to meet any mission-critical need with the flexibility they demand.

Intel® Itanium® 2 processors also include state-of-the-art enterprise reliability features such as advanced hardware error correction and recovery, machine check architecture, and PCI Hot Plug. In addition, Windows Server supports features such as failover clustering, hotswap components, and RAID subsystems, enabling customers to achieve levels of availability surpassing even the most established legacy systems.

Microsoft and Intel solutions can not only meet but exceed the enterprise abilities of existing UNIX solutions.

Enterprise Application Compatibility
Many of the applications that customers have traditionally run on UNIX systems—such as Oracle, SAP, PeopleSoft, and J2EE solutions—are now more often deployed on Windows Server. SAP ships over 65% of their products on Windows

and Intel server platforms.[3] Even Oracle, once thought of as the database of choice for UNIX systems, now sells more databases on Windows Server than any other platform.[4]

When customers need to develop their own mission-critical enterprise applications, Microsoft's Visual Studio® and Intel's software development tools can be used to rapidly build highly-scalable applications running on the Microsoft .NET platform. Based on a recent study conducted by IDC, the Windows .NET platform is now the most popular platform for mission-critical applications running inside companies—even more popular than Java.[5]

> **"Microsoft's Windows Server operating system and servers using Intel's high-end processors have progressed to the point at which they can now satisfy the most demanding needs in terms of scalability and reliability. As a result, users in enterprise and datacenter environments have the option of benefiting from the volume price points and a choice of hardware suppliers enabled by industry-standard performance or uptime." *Migrating Business-Critical Applications from UNIX to Windows and Itanium 2-based Servers – January 2006***
>
> **– Tony Ians, Ideas International**

New features for customers coming from UNIX

Customers want to leverage their investments in existing custom application code, cut down their project implementation cycles, and ensure interoperability with existing IT infrastructure and corporate data. In response to these demands, Microsoft has developed a portfolio of UNIX interoperability solutions and now includes these with Windows Server 2003 R2, the latest release in Microsoft's server family.[6] For customers, this means:

- Active Directory® can now be used to extend centralized identity management to UNIX users.
- UNIX and Windows users can easily share files using NFS.
- UNIX scripts and custom application code can run natively on Windows using the Microsoft subsystem for UNIX-based applications.
- Developers can breathe new life into UNIX applications by extending them to take full advantage of Visual Studio, Windows, and .NET interfaces.

Doing more with less = increased business value

Companies are faced with shrinking IT budgets and staff, while having to support an ever-growing reliance on technology. New technology solutions must provide rapid benefits for business in the form of increased productivity and cost savings. The Microsoft and Intel server platform provides a clear advantage in the areas of total cost of acquisition and ownership.

> **"When we compared the TCO of Windows Server 2003 to Linux, we found a 20% cost differential in Microsoft's favor, and in this industry, in today's business climate, 20% is very significant. It's huge."**
>
> **– Keith Morrow, CIO, 7-Eleven**

When it comes time to upgrade aging technology solutions, Windows Server running with Intel processors is a low risk, long term solution. Most existing applications can run on 64-bit Windows platforms enabling you to leverage existing investments in applications, people, and systems. Now you can not only host these solutions on a lower cost platform—your applications can be extended to take advantage of key emerging areas such as collaboration, Web services, and mobility.

In the past, as enterprise systems have evolved to achieve higher levels of scalability and functionality, the complexity of the systems and management costs have also typically increased. To address this, Windows Server 2003 starts with built-in enterprise services such as directory services, Web services, and transaction services. Other integrated products in the Windows Server System™ family such as SQL Server,™ Exchange Server, and BizTalk® Server can be easily added to meet your requirements. The platform is then enhanced by products and services from thousands of partners from around the world. Since these solutions are designed around a common architecture, management complexity is reduced which improves your bottom line. Management is further simplified with the availability of over 750,000 certified Microsoft professionals.

Based on a report from Management Insight, 77% of solution providers who were polled chose Windows Server as the platform they preferred to use for building solutions for their customers.

> **"The Itanium ISV's ecosystem grew from 3,000 applications in January 2005 to more than 5,000 in August and continues to grow at similar run rate, a clear indication of the strong endorsement by the software community of Itanium servers' capacities."**
>
> ***IDC White Paper Sponsored by HP, "End Users' Feedback: Transform IT and Increase Business Performance Through Itanium based Standardization," August 2005***

intel | Microsoft

> "By choosing Windows over Linux for our new SAP solution, we'll save an estimated $1 million in costs over the first four years. We needed performance, security, and reliability at a reasonable price, and Linux would have presented greater risk in all those areas. I need a proven IT environment that I'm sure we can support."
>
> – Rick Dempsey, Chief Information Officer, Rayovac

RAYOVAC

Rayovac goes with Intel Itanium 2 Processors and Microsoft Windows Server System to meet their goals.

When Rayovac evaluated new platforms for modernizing their HP-UX based SAP system, its goals were to reduce costs and increase reliability, performance, and security.

Rayovac chose a Unisys ES7000 server with Intel® Itanium® 2 processors running Windows Server System products. When compared to an alternative solution running Linux and Oracle, the Microsoft and Intel solution was found to have major advantages:

- **Lower total cost of ownership.** Rayovac expects to save almost $1 million in software, staffing, and support costs over a four year period with the Microsoft and Intel solution.

- **Better reliability and security.** Since the solution went live, Rayovac has experienced no unscheduled downtime. Rayovac used existing procedures for managing the solution and was able to address their security compliance needs.

- **Reduced risk.** Selecting proven solutions and established partners meant less potential for problems in the future. In addition, Microsoft provides strong indemnification protection against potential intellectual property claims.

With help from a trusted Microsoft partner, Rayovac was able to build a new solution that met all of their requirements.

Taking the next step

The time to move to Windows Server and Intel 64-bit technology is here. This year, a majority of the processors shipped by Intel will be 64-bit capable. Microsoft Windows Server 2003 is the platform of choice—outselling all other server platforms combined by a factor of almost 2 to 1. Windows Server on Intel® Itanium® 2–based server platforms offers unparalleled benefits in the form of lower costs, rock-solid reliability, better scalability, faster time to market, and access to the largest business solution ecosystem on the planet.

> "CompUSA's vision is to be able to scale our data warehouse to support our ongoing growth. The Itanium 2 micro architecture allows us to get there—to scale up to 8-way, 16-way, and in the future, to 32- and 64-way servers. As a result of the Itanium 2 processor–based HP Integrity server solution, running Microsoft SQL Server on Microsoft Windows Server 2003, we have seen tremendous performance improvement on several processes associated with our data warehouse."
>
> – Cathy Witt, Chief Information Officer, CompUSA

COMPUSA
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For more information and to find out if you qualify for a free Assessment Workshop, visit www.migrationforunix.com

1 IDC Server Workloads 2005 Model. 2. A Windows-powered HP Superdome running 64 Itanium processors is currently benchmarked at running over a million transactions per minute using the TPC-C benchmark. 3. SAP sales information. 4 IDC Server Workloads 2005 Model—Database Segmentation. Oracle shipments in 2004: Windows 41%, UNIX 37%, Linux 22%. 5. IDC 2005 Mission-Critical Survey. Question: What software application platforms do your company's mission-critical applications currently run on? Microsoft .NET scored highest with 35.7%, followed by J2EE or other Java with 25.3%, Mainframe with 16.8%, other Microsoft platforms with 16.2%, UNIX, HP, Solaris, AIX with 7.1%, and Oracle with 6.4%. 6. Because the features in the latest R2 release of Windows Server 2003 apply to workloads targeted for different environments, no R2 version of Windows Server 2003 for Itanium-based systems is planned.

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intel Itanium 2 inside | Windows Server 2003 should go to my peers, my boss or my staff would go to the right people; and that they'd know how to do it. I needed to make sure that people were cross-trained and that my manager knew how to do the most critical parts of my job. (And don't tell me that your manager doesn't know a disk drive from a driveway. He hired you, so he can't be that stupid.) I needed to finish writing it all down, and I needed to automate those routine tasks that I said would be easy to do when I first started.

If you really don't know what to do with your work, share this with your boss and ask him what to do. You may be surprised to learn that he has a plan — having figured out that if you didn't take a vacation, he'd find you under your desk someday, fried all crispy. So work it out with him and take the time off. Don't become a crispy mess.

Of those things that he doesn't want to or can't do, decide what really is critical and what can wait. You might consider having a key vendor either on-site or available for enhanced support while you're gone. It's also a great time to learn how good your succession plan is. Give a report the access he would need to really cover for you — with your manager's complete knowledge and agreement, of course.

My 12-step program to counter workaholism may benefit from my belief in a higher power — or at least from my husband's desire to see Italy, eat in France, dance in Spain, drink beer in Germany and see his dad in Idaho. Surely the people you care about also want to go somewhere and do something. And if you really can't think of anything relaxing, join Habitat for Humanity and help rebuild New Orleans. Just get out of the office!

One thing I don't believe in is handing out my cell phone number or checking in while I'm gone. Otherwise, I might as well be in the office, since I'll only be annoyed by the faint cell signal as we hike through the Idaho hills or the time difference between San Francisco and Rome. When I turn on Outlook's out-of-office agent and set my phone to "Away," I want to be totally away, not straddling work and vacation. Only those unable to delegate or those in the medical profession should stay attached.

So, if all your previous vacations were spent working remotely, then make this your goal: In 2006, I will plan my vacation, and I will take it.

You may actually like not working! ▸

WANT OUR OPINION?

More columnists and links to archives of previous columns are on our Web site: **www.computerworld.com/columns**

READERS' LETTERS

Readers Sound Off About Microsoft's Strong-arm Sales Tactics

THANK YOU, Don Tennant, for having the guts to report the story on Microsoft's marketing tactics ["Rotten Effort," May 15]. I hope that this will help others, and even Microsoft, see that alienating customers is not a good business strategy.

Sam McCoy
Programmer/analyst,
Cincinnati

I AM JUST as disgusted by Microsoft's sales tactics as I am by its deliberate lies about competitors, its own delivery dates and other practices that have made the company rich. I wish corporations would finally get fed up with Microsoft's behavior and switch products.

It's amazing how many Microsoft customers get treated poorly like this or have to deal with Microsoft product defects but keep on buying its software.

John Columbus
Owner, Columbus Consulting Group, New Hope, Minn.,
detanyek@hotmail.com

WHEN I was CIO at a major international bank a few years back, I received a letter demanding that I supply proof of licensing by providing an audit conducted by a Big Five auditing company. The concept of a vendor creating a system that is almost impossible to administer, then using the ensuing chaos to sue customers, just left me cold.

I wrote back thanking them for their letter and for raising the issue of license compliance. I indicated that I believed we were substantially overlicensed because we had purchased PCs with software and because we were a Select customer. I indicated that we would be seeking refunds for unused licenses. I didn't hear from them again.

Waleed Hanafi
Singapore,
waleed@whanafi.com

I HAVE SEEN this a number of times to a lesser degree, but Tennant's editorial was a good way to let consumers be forewarned and more proactive in defending themselves from an aggressive and somewhat ethically questionable sales tactic.

James D. Cobb
Vice president for national accounts, Kforce, Tampa, Fla.,
dcobb@kforce.com

THE LAST paragraph ("The folks at Microsoft should have done their homework. They would have realized that trying to intimidate Dale Frantz would be a fruitless effort. And what a rotten fruitless effort it was.") makes it sound like this was a singular event, peculiar only insofar as Dale Frantz was the wrong guy to pick on. Microsoft's cynical creation of a euphemism like "engagement manager" for this kind of thug is deplorable.

Steve Cavender
Chief technologist,
First American Payment Systems,
Fort Worth, Texas

JANET LAWLESS is very aptly named, considering the activities that she is engaged in.

It would have been great to read that Auto Warehousing responded to her e-mails by promptly transferring all of its computing to Linux (thus permanently resolving any Microsoft licensing issues).

But that would be a fairy tale, not real life.

Tom Welsh
Basingstoke, England

Patent Infringers Should Play Fair

THERE IS another way to deal with the problem of patent infringement that was not mentioned in Frank Hayes' column "Patent Pain" [April 3].

Companies could do patent searches before releasing their products and then either negotiate a license or use a work-around.

It has been a legal tactic to just go ahead and infringe with the hope that the patent holder doesn't have the time or the money to defend its intellectual property. Now that some patent holders are challenging the infringers in court, the offenders are calling for changes in the patent system so that they do not have to pay license fees.

Also, while some of the recent settlements have seemed to be large, it should be noted that a substantial share went to paying legal costs. If there had been an attempt to license prior to the release of the product, it is likely that a much lower fee could have been negotiated. At the very least, there would be no damages from past infringement.

Gary Reichlinger
Owner,
Reichlinger Business Services,
York, Neb.

HAYES NEGLECTED to point out that had Microsoft dealt fairly and squarely at the onset, none of its problems with Eolas Technologies would be happening.

Joey Mele
Technology consultant,
Las Vegas

Why Good IT Talent Is So Hard to Find

FINALLY, SOMEONE who understands what is happening in the U.S. IT job market ["Why Good Technologists Are Hard to Find," March 20].

While there are many contributing factors to the lack of interest in an IT career among today's youth, they can be summed up by putting a mirror to the quoted Premier 100 honoree's lament that "the shortage of IT talent is a major challenge to staying competitive," to wit: "The shortage of attractive career opportunities is *the* major challenge to developing a talented IT workforce."

Instead of blaming everyone else, U.S. employers need to face the fact that they have created this situation and only they can fix it.

Justin Randall
Senior database engineer,
Marietta, Ga.

Shared Passwords Trump Encryption

ENCRYPTION WILL NOT matter as long as health care providers tolerate the support policies of some of their largest vendors ["Safe and Sound," March 27].

Mostly, support and monitoring are provided through VPNs and are generally pretty secure. However, the hole that no one wants to talk about is that many leading vendors use the same user IDs and passwords for support accounts, network access, application access, Web access and the like. So, with just one user ID and password for a support account, I could gain access to medical information for just about anybody. Clearly, cryptographic technology really does not matter if somebody leaves a powerful user ID and password stuck on a keyboard with a Post-it note.

Rudy Komacsar
Senior systems engineer/
database administrator,
Schererville, Ind.

COMPUTERWORLD welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to Jamie Eckle, letters editor, Computerworld, PO Box 9171, 1 Speen Street, Framingham, Mass. 01701. Fax: (508) 879-4843. E-mail: letters@computerworld.com. Include an address and phone number for immediate verification.

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TECHNOLOGY

05.29.06

Geek's Garden

DARPA decks out soldiers with wearable sensors; researchers at Duke build a better superconductor; and how word processing evolved from movable type to Microsoft Word. **PAGE 26**

Cool Wireless Stuff

The coolest wireless devices don't just improve productivity — they're also fun to use. Here are some *Computerworld* staffers' picks. **PAGE 29**

OPINION

Malware Challenges in A Cross-Platform World

As virus writers focus on cross-platform attacks, IT must redouble its efforts to protect all kinds of systems, not just Windows, says Douglas Schweitzer. **PAGE 32**

ILLUSTRATION BY POLLY BECKER

{ The high cost of paper-based transactions fuels renewed efforts to eliminate it as the primary medium of exchange in business. }

Paper Cuts

BY ROBERT L. MITCHELL

PAPER has been around in one form or another for 5,000 years. Paper money has been the preferred medium of exchange for business transactions for about 1,000 years. For the past 30 years, organizations have been trying — with limited success — to eliminate paper from business processes.

Given its history, it is no surprise that paper still plays a major role in most corporations. But as businesses redouble their efforts to increase productivity by automating and rethinking paper-centric business processes, IT is finally gaining the upper hand.

There's little choice, says Alan Goldstein, managing director at The Bank of New York Co. "As volumes increase, the only way firms can adjust is by going to greater automation," he says.

The effects of such efforts are being felt in the paper markets. "Paper consumption levels are essentially flat," says Merilyn Dunn, an analyst at InfoTrends/Cap Ventures in Weymouth, Mass. Sales of cut-sheet paper are expected to grow at less than 2% over the next few years, a sharp drop from the double-digit growth rates of 10 years ago. The slowdown is a direct

Continued on page 22

[1] Based on published power usage data available from both companies, the IBM LS20 BladeCenter with 2x2.4GHz Dual-Core processors, 8GB of memory, 2 36GB SCSI HDDs, dual Ethernet, dual Fibre Channel can use up to 37% less power than the HP BL25p with 2.4GHz dual-core processors, 8GB of memory, 2 36GB SCSI HDDs, dual Ethernet, dual Fibre Channel. Analysis performed on April 10, 2006. IBM, the IBM logo, BladeCenter, and Take Back Control are trademarks or registered trademarks of International Business Machines Corporation in the United States and/or other countries. Intel, Intel Inside, the Intel Inside logo, and Intel Xeon are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and/or other countries. Other company, product, and service names may be trademarks or service marks of others. ©2006 IBM Corporation. All rights reserved.

_THE INVASION

_DAY 16: These servers are so hot, we're running the AC at full blast, and the thermometer is still pushing 140°. Had to relax the dress code in the server room. No choice. It's towels and flip-flops until we get this heat problem under control.

_Gil says he's lost a lot of weight. I hadn't noticed.

_DAY 17: I found a cooler answer to our heat problem: the IBM BladeCenter® with Intel® Xeon® Processors reduces the overall amount of power required by the system. The BladeCenter is designed to respond automatically to power events and can use up to 37% less energy[1]. Less power. Less heat. Less money. Less stress.

_Oh, apparently HR had a problem with the dress code but couldn't call and tell us, since the phones had melted.

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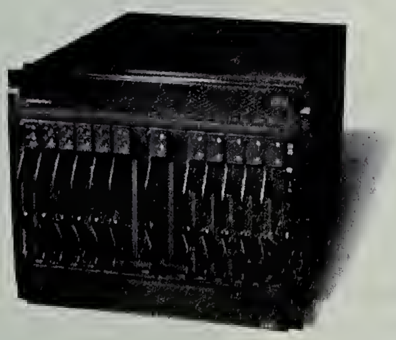


The Paper Practice

Sonora Quest Laboratories' efforts to automate a paper-based process required it to help doctors generate paper copies of test results. Four years ago, all of the 50,000 test requests the medical testing lab received from doctors each day arrived on paper. Today, that number has been reduced by about half. The lab, which serves patients and doctors in Arizona, created a Web-based interface that doctors can use to requisition tests and view results. The system also generates a "held order card" the doctor gives to the patient. The card includes the appointment time and a reference number that staffers in the patient service center can use to bring up the electronic order when the patient arrives for lab work.

Since most doctors work in small offices of three or fewer practitioners and many still don't have computers or Internet access, Sonora Quest offered to install PCs and printers in those offices that are dedicated to running its electronic ordering and results system. "It's a totally locked-down system. The physician doesn't have to pay for it, but it can't be used for anything else" other than lab orders and results, says Bob Dowd, CIO at Laboratory Sciences of Arizona, which manages seven hospital labs and subsidiary Sonora Quest Laboratories.

Even with those measures, some doctors continue to use paper, so Sonora Quest images those requisitions when they're presented at one of its service centers. The staff views the image on screen and manually transposes the data into the system.

"One of the first things we did was create a workflow and billing system," says Dowd. "Everything passes from queue to queue. There is no more paper." The configuration includes two server clusters and an image archive that resides on a network-attached storage device.

One cluster functions as the workflow server, while the second runs other applications. Staffers using the system can view a requisition and image at each step as the job and bar-coded lab specimens are processed. "We're no longer sending paper around the building," Dowd says.

Disseminating results presented a different challenge. With the new system, about 95% of tests received overnight are completed, and their results are available for electronic delivery by 8 a.m. With a traditional courier service, doctors didn't receive the results until later in the day. The new system lets offices view results on a secure Web site or receive them by fax right away. In some offices, Sonora has even provided a remote printer and delivers results to it. "We monitor those, so if for any reason it doesn't go through, we call the client" to resolve the problem, Dowd says.

The new system benefits everyone, he says. Patients see fewer billing errors, doctors get results more quickly, and the lab turns around orders more quickly and avoids costly billing errors. Dowd would like to move to electronic invoicing next but faces the challenge of working with a large number of vendors. Unfortunately, he says, "most of them are still trading pieces of paper."

– ROBERT L. MITCHELL

Continued from page 19

result of the replacement of paper-based systems with electronic ones, Dunn says.

Businesses have made strides in reducing paper flows. Thanks to technologies such as Electronic Data Interchange and Web services, imaging and electronic documents, and document management systems, many workflows have been redesigned to reduce or eliminate paper-centric processes and replace them with more efficient ones.

Re-engineering workflows is the key to cutting costs, says Steven Thum, vice president of the business process engineering division at Bank of New York. "You really need to understand technology, how you can take advantage of it and re-engineer the underlying processes," he says.

Sticking to Paper

In some areas, however, the use of paper is likely to continue for the foreseeable future. Many people still have a cultural preference for paper-based output. For example, Sonora Quest Laboratories in Tempe, Ariz., is automating its medical test lab processes, but at the end of the day, health care providers still want a printout.

"A lot of doctors still want a hard copy. [They] like to show it to the patient," says CIO Bob Dowd.

People like to have paper copies of documents that represent the final outputs of transactions, says Richard Harper, senior researcher, socio-digital systems at Microsoft Research. "Paper can act as the physical embodiment of a transaction," such as an insurance policy, he explains.

Even that could eventually change. More than 40% of the workforce was born after 1975 and has always used computers, says Dunn. "They've learned to absorb and retain information from screen displays . . . and they look at paper as redundant," she says.

That has been the case at Bank of New York, where users have adapted to viewing document images and PDF files on screen instead of printing them. "I've seen how readily some folks who have more than a few years in this industry have embraced the ability to pull up a record on their desktop. People printing it is truly the exception," says Thum. Nonetheless, there's a difference between viewing transactional documents on screen and reading large reports and other knowledge-intensive documents in that way, says Harper.

At appliance maker Whirlpool Corp., product manuals are an area where paper remains the superior technology, despite the potential cost savings of digital documents. A paper manual can be attached to an appliance, where it is more immediately available to the customer than electronic documents on a CD-ROM or Web site. Paper also has certain tangible qualities that are attractive for marketing purposes.

"[Marketing] may want to use a certain type of paper that conveys our brand image," says Thomas Ehrman, director of global enablement services at Benton Harbor, Mich.-based Whirlpool.

At a software company like Microsoft Corp., however, printed manuals aren't very useful. "There's no way you could print a manual for Windows, because it changes every six weeks," says Harper.

Compliance by Hard Copy

Other documents, such as contracts, must be retained on paper for legal or regulatory compliance reasons. "As much as we've gone electronic in our core business, we still have contracts, trust agreements, etc., that are required to establish a relationship with the bank," says Thum. Such documents are scanned, but electronic versions are complementary.

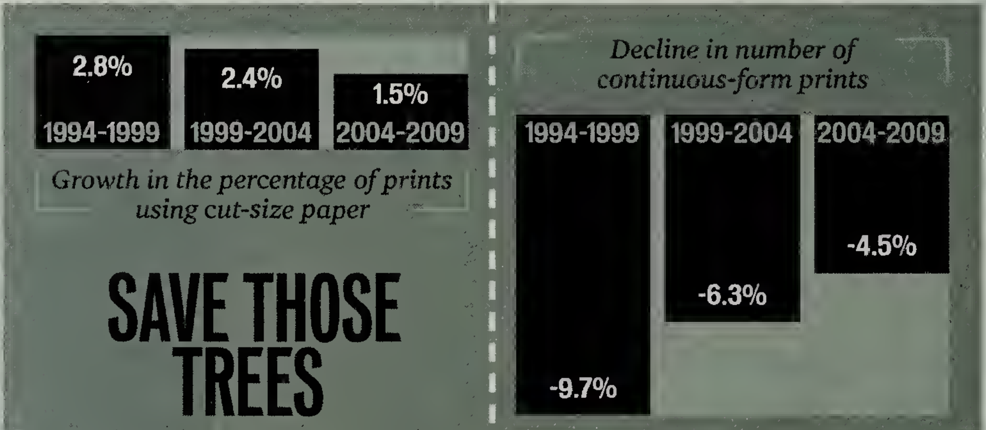
"I would be surprised to see actual, legally binding documents maintained in purely electronic form," says Ernie Harris, product manager at Raymond James Financial Inc. in St. Petersburg, Fla. The financial services firm uses imaging technology for inbound documents and faxes, but the desire to eliminate paper-based transactions with customers is tempered by regulatory requirements and a cultural preference for signed forms. The company processes hundreds of thousands of paper-based requests to open, update or change customers' accounts each month.

That paper adds up quickly. A new client who is retired typically opens at least six accounts and signs 20 to 30 pieces of paper, says Harris. Currently, 50% of the company's transaction requests come in by mail or fax.

Raymond James aims to address that by creating dynamic documents that consist of a common form and modules that can be integrated based on a customer's needs. "You only have to sign one contract. Now we're talking about signing one, two or maybe three pieces of paper [instead of 30]," Harris says.

Some legal documents could go away if digital signature technology became widely accepted. Harris says he is one-third of the way through an evaluation of digital signature technology that could eliminate paper contracts. That system includes a digital capture pad that embeds a secure signature image

Continued on page 24



The consumption of "cut-size" paper used in printers and copy machines once posted double-digit growth rates, but now it's expected to grow just 1.5% through 2009. The use of continuous forms is also plummeting. One major reason for the decline, says Merilyn Dunn, an analyst at InfoTrends/CAP Ventures, is the gradual success businesses are having replacing paper-based systems with electronic ones.

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Continued from page 22

and document hash into a Word or PDF file. However, he doubts that digital contracts will replace paper anytime soon. "We have hundreds of years of comfort applying pen to paper. It gets really uncertain when you start applying digital representations of those things," he says.

However, the payoff of a transition to digitally signed documents would be huge. "We have the potential to make a quantum leap forward in terms of service-level turnaround. Clients could have their accounts open and ready for a transaction within minutes," says Harris.

Paper has also faded as a medium for archival storage. Bank of New York estimates it has imaged more than 290 million documents since it began scanning in 1997. Thanks to imaging and technologies such as the PDF, paper is rapidly disappearing as an archival medium, says Keith Kmetz, an analyst at IDC. "Printing is not necessarily a permanent record anymore. [It] has become a temporary repository of information," he says.

However, disposable printouts — a temporary instantiation of electronic documents that are discarded after use — are likely to continue because people like the contrast and feel of paper. Such printouts may actually be increasing in some areas, says Kmetz. To better manage that, companies are deploying document accounting systems that track who printed what when.

Battle at the Edge

On the front lines in the battle to eradicate paper — where the business touches customers and suppliers — paper has remained stubbornly entrenched for many types of transactions. But that's also the area where businesses see the greatest opportunity for savings.

For example, Web-based ordering is a great alternative, but it won't work if customers don't want to play ball. "In the early '90s, we thought everyone would go to the Internet. Five years later, we found that we had more paper than ever," says Boren Novakovic, Whirlpool's senior supply chain strategy manager for the North American region. The problem: The appliance maker receives more than 1.5 million orders a year from home builders who still send them in by fax.

Whirlpool couldn't eliminate its fax machines because those customers often work in the field and don't have Internet access. "If they want to do it by fax and we can't accommodate that, they will . . . go to another product manufacturer," says Ehrman.

Now Whirlpool captures incoming faxes digitally, rather than printing them out. A new document-exchange system from Esker Inc. in Madison, Wis., receives incoming faxes and archives the images to an IBM DB2 CommonStore repository.

In the next phase, currently in pilot, Whirlpool will use optical character recognition (OCR) technology to automatically extract data from faxed forms and route them to its SAP system, which will process the orders and fax back a confirmation.

Extracting data from images is tricky, however. Whirlpool's plan calls for a 95% pass-through rate on incoming faxes, but success will depend on a change in business processes: getting customers to use standard forms.

"We'll have a digital nightmare," says Novakovic, if Whirlpool simply converts all of its paper-based processes to digital ones without any standardization or business process improvements.

Raymond James also plans to use OCR to extract content from document images. One challenge, however, is that clients sometimes hand-write changes on the form. Rules must be created to flag such contract changes, Harris says.

Ultimately, Harris would like to create business processes that allow the processing of incoming fax orders to be fully automated. "If we could do that, it would make a huge reduction in staffing requirements," he says. But that isn't likely to happen anytime soon. Raymond James currently uses an automated fax service from EasyLink Services Corp. in Piscataway, N.J., that captures incoming fax images, routes them and attempts to extract some content using OCR. The system does a good job routing document images, and the OCR pilot has been successful, but that process doesn't work for all forms. "There's no way to guarantee the accuracy rates Raymond James requires," says Bill Fallon, vice president of marketing at EasyLink, so each fax must also be manually reviewed.

Bank of New York has also faced challenges in extracting data from imaged requests. "We're largely dealing with an institutional client base where they each have their own formats — or no formats. We're doing OCR selectively," Thum says.

The bank has had imaging systems in place for years but has reached a point of diminishing returns. Most business transactions have moved online, but, Thum says, "paper nonetheless remains." Although incoming paper documents are scanned, many originals must be stored for compliance or legal reasons. But while the total percentage of documents remaining in paper form may be relatively small, the absolute numbers of documents coming in by mail and fax are still significant.

As the costs of manual processing increase, the potential for cost savings is providing a strong incentive to push the remaining paper-based processes out of the business. ▶

A DIGITAL ALTERNATIVE

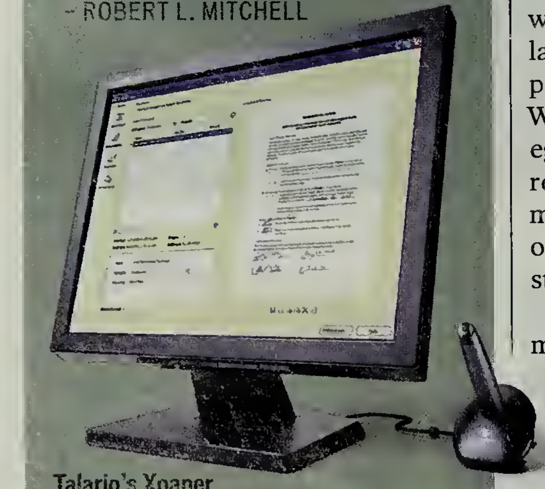
If users won't move from to paper to digital technology, why not digitize the paper itself? That approach, taken by Talario LLC's Xpaper signature-capture system, creates a digital copy of the physical document without requring it to be scanned.

Xpaper includes a digital pen and paper that carries a unique identifier and a grid pattern that orients the pen on the page. "You print on our special paper, and when you write with our pen and dock it, you get a digital copy," says Tim Aughenbaugh, president of Brookings, S.D.-based Talario. The user creates a form in any Windows application and converts it to PDF format. When the signature is captured, it is embedded into that document.

Xpaper isn't a substitute for a signed document but supplements it, says Aughenbaugh. Xpaper creates a digital image in one step, eliminating the need to scan a document. And unlike a scan, the PDF file containing the signature is searchable. The technology is innovative, but at 15 cents per sheet, "I wonder if it isn't a solution in search of a problem," says Merilyn Dunn, an analyst at InfoTrends/CAP Ventures.

But the technology is ideal for some transactions, says Aughenbaugh: "We can retain the paper and gain the efficiencies of reporting faster or being able to bill faster."

– ROBERT L. MITCHELL



Talario's Xpaper signature-capture system

Paper's Not The Problem

Richard Harper *is senior researcher of socio-digital systems at Microsoft Research in Cambridge, England, and author of* The Myth of the Paperless Office *(MIT Press, 2001). He recently spoke with* Computerworld's *Robert L. Mitchell about paper's evolving role in business.*

Richard Harper

■ **What is the problem with paper?** I think that in 2006, concerns of paper and paperlessness seem a bit old-fashioned. We've gotten this message even from the highest levels about paperlessness. Haven't we gotten over that problem? What's wrong with paper? There's nothing wrong with paper. Paper is incredibly cheap and much more user-friendly than most computer technologies.

■ **Where can paper be replaced?** Paper is traditionally used for jobs [for which] it's not necessarily the best use. Between organizations . . . paper becomes the default technology. What paper is good at is as a solution for someone else's problem. To do away with paper isn't the problem. It's the fact that the organizations haven't figured out how to communicate electronically.

■ **What's wrong with electronic documents?** Even companies like Microsoft haven't figured out how to make the digital tangible. You would be a fool to rely on digital technology for an insurance policy, for example. Those technologies keep reinventing themselves at such a pace that they don't have a history. The problem of tangibility and persistence hasn't really been solved.

■ **Bottom line: When should you use paper, when not?** If you're changing, if you're searching, if you're gathering, you want digital. If you are understanding, if you are comparing, if you are at the end of your work, you want paper. The important thing is to just get people to be open-minded about the user of paper and digital and not to have little religious stances about it.

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Honoree Award Recipients in each of the following categories were recognized during the Gala Awards ceremony at Mobile & Wireless World at the Ritz-Carlton Orlando, Grande Lakes on May 24th.

Business Evolution through Mobilizing Field Workers

Honorees

Primerica Financial Services – Duluth, Georgia
Texas Department of Family and Protective Services – Austin, Texas

Finalists:
- GE Consumer & Industrial – Louisville, Kentucky
- Streets Heaver – Lincoln, Great Britain
- Warren County (Public Safety Network) – Lebanon, Ohio

Deploying Wireless Mobility in the Enterprise

Honorees

Airport Authority Hong Kong – Hong Kong, China
Medtronic – Minneapolis, Minnesota

Finalists:
- Children's Medical Center Dallas – Dallas, Texas
- Credit Valley Hospital – Mississauga, Canada
- US Army – Fort Monmouth, New Jersey

Innovation and Promise

Honorees

Beth Israel Deaconess Medical Center – Boston, Massachusetts
Coppin State University – Baltimore, Maryland

Finalists:
- Ripon Police Department – Ripon, California
- TNT Logistics North America – Jacksonville, Florida
- Wake Forest University – Winston-Salem, North Carolina

Managing Cellular Mobile Data

Honorees

Electrical Safety Authority of Ontario – Mississauga, Canada
United States Postal Service – Washington, DC

Finalists:
- Dubai eGovernment – Dubai
- Globe Telecom – Mandaluyong City, Philippines
- Kone b.v. Elevators & Escalators – Den Haag, Holland

Transforming the "Brick and Mortar" Enterprise

Honorees

St. John's University – Queens, New York
SureXpress – Oklahoma City, Oklahoma

Finalists:
- Great Plains Coca-Cola Bottling Company – Oklahoma City, Oklahoma
- Union Pacific Railroad – Omaha, Nebraska
- West Edmonton Mall – Edmonton, Canada

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Judges evaluated and ranked the finalists in each category according to their substantiated mobile/wireless solution attributes and achievements against criteria such as:

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- Strategic importance to the business.
- Substantive customer impact (service. retention, acquisition).
- Positive impact on other business/organization units.
- Addresses system and department interoperability issues and heterogeneous platform integration challenges.
- Provides a strategic advantage to the business/organization while anticipating and accommodating the deployment of future initiatives.
- Supports the efficient and reliable data, information and application sharing/access between personnel, departments, divisions, etc.
- Addresses challenges of data, information and application security, recovery, business continuity, etc.

Thank you to our "Best Practices in Mobile & Wireless" Judges for 2006:

- Rohn Flanders, Saia Motor Freight
- Matt Hamblen, Computerworld
- Ed Hess, Integrated Solutions Magazine
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- John Stehman, Robert Frances Group
- Daniel Taylor, Mobile Enterprise Alliance, Inc.
- John Wade, Saint Luke's Health System
- Denise Yunkun, FedEx Services

Geek's Garden

A STROLL THROUGH THE TECHNOLOGY LANDSCAPE

Wearable Sensors To Enhance Soldier's Field Observations

A SOLDIER'S AFTER-ACTION mission report can sometimes leave out vital observations that could be valuable in planning future operations. The Defense Advanced Research Projects Agency is exploring the use of soldier-worn sensors and recorders to augment a soldier's recall and reporting capabilities.

NIST

Future combat gear might be outfitted with wearable sensors, including cameras and audio pickups, to enhance a soldier's "situational awareness."

The National Institute of Standards and Technology (NIST) is acting as an independent evaluator for the Advanced Soldier Sensor Information System and Technology (ASSIST) project.

Recent tests at the U.S. Army Aberdeen Test Center in Aberdeen, Md., involved sensor-clad soldiers on unscripted patrol through simulated Iraqi villages populated with people representing bystanders, shopkeepers and insurgents. The sensors were designed to capture, classify and store data such as the sound of acceleration and deceleration of vehicles, images of people (including suspicious movements), speech and types of weapon fire. A capacity to give locations using the Global Positioning System, an ability to translate Arabic signs and text into English, and on-command video recording were also demonstrated.

Sensor system software is expected to extract keywords and create an indexed multimedia representation of information collected by different soldiers. The soldiers wearing the sensors will make an after-action report based on memory and then supplement that report with information from the sensor data.

"Soldiers endure tremendous physical and psychological stresses, which can make it difficult to remember details about what they experienced over prolonged missions," said Craig Schlenoff, NIST's ASSIST project coordinator. "We hope that ASSIST will keep our soldiers safer and increase the probability of mission success."

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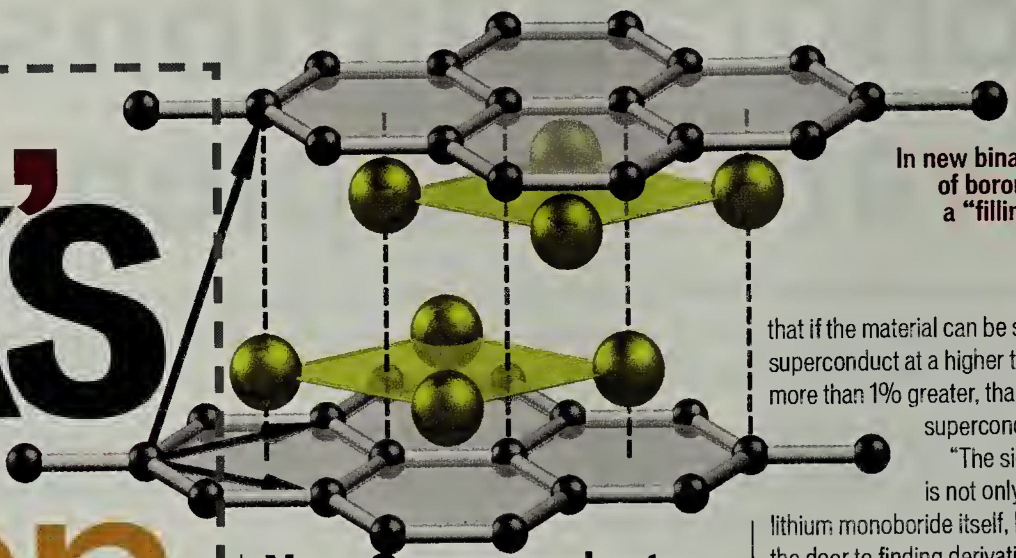
In new binary alloy, two layers of boron "bread" surround a "filling" of lithium metal.

GROVES OF ACADEME

New Superconductor Discovered by Duke Engineers, in Theory

AFTER AN EXHAUSTIVE data search for new compounds, researchers at Duke University's Pratt School of Engineering have discovered a theoretical "metal sandwich" that is expected to be a good superconductor. The new lithium monoboride (LiB) compound is a binary alloy consisting of two layers of boron – the "bread" of the atomic sandwich – with a lithium metal "filling" in between, the researchers said. Once the material is synthesized, it should be superconductive at a higher temperature than other superconductors in its class, according to their results.

"To the best of our knowledge, this alloy structure had not been considered before," said Stefano Curtarolo, professor of mechanical engineering and materials sciences. "We have been able to identify synthesis conditions under which the LiB compound should form. We believe that if the material can be synthesized, it should superconduct at a higher temperature, perhaps more than 1% greater, than any other binary alloy superconductor."

"The significance of the work is not only the discovery of lithium monoboride itself, but also that this opens the door to finding derivatives that could aid in the search for additional novel superconductors," added Aleksey Kolmogorov, lead author of the study.

Superconductors have the potential to produce more efficient electronics and electric generators, according to the researchers. The materials also have unique magnetic capabilities that may enable their use in transportation applications, such as maglev trains that glide over their tracks with virtually no friction.

However, today's superconductors perform only when cooled to extremely low temperatures near absolute zero, which is -459.67 degrees Fahrenheit, or 0 degrees Kelvin. This requirement makes their use prohibitively expensive, the researchers said.

"It's a very thin line, because as you try to increase the temperature at which a material becomes superconducting, the material tends to lose its stability," Kolmogorov said.

"It was like spotting a $100 bill on the street," Curtarolo. "It seemed impossible that this could be real and that no one had seen it before."

DIFFERENCE ENGINES

Get the Word

WORD PROCESSING, which is the computer application that has most dramatically changed the lives of office workers, had its beginnings in the Middle Ages with efforts to automate the writing process. The invention of printing and movable type was the initial step. But for the individual, the first major advance from manual writing was the typewriter.

Christopher Latham Sholes, with the assistance of two colleagues, invented the first successful manual typewriter in 1867. It began to be marketed commercially in 1874. This model printed on the underside of the roller, so the typist could not view his work until he had finished.

Christopher Latham Sholes

The shift key, which made it possible to type both capital and lower-case letters with the same keys, was added to typewriters in 1878; printing on the upper side of the roller came in 1880; and the tab key was added in 1897.

Thomas Edison patented an electric typewriter in 1872, but the first workable model was not introduced until the 1920s. M. Shultz Co.'s introduction of the automatic or repetitive typewriter in the 1930s was perhaps the greatest step from the typewriter toward modern word processing. The Shultz machine's main innovation was automatic storage of information for later retrieval. It was a sort of "player typewriter," punch-coding text onto paper rolls, similar to those used in player pianos, that could later be used to activate the keys of the typewriter in the same order as the initial typing. With the automatic typewriter, it was possible to produce multiple typed copies of form letters without the intermediary of carbons, photocopiers or typesetting.

A pre-CRT word processor from Tandy

In 1964, IBM brought out the MT/ST, which combined the features of its Selectric typewriter with a magnetic tape drive. On the tape, information could be stored, replayed, corrected and reprinted as many times as needed. This development marked the beginning of word processing as it is known today.

In the early 1970s, Linolex, Lexitron and Vydec introduced pioneering word-processing systems with CRT display editing. A CRT-based system introduced by Wang Laboratories Inc. in 1976 popularized word processing. With the rise of personal computers, in particular the IBM PC and PC compatibles, software-based word processors running on general-purpose commodity hardware gradually displaced dedicated word processors.

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Hyatt Regency Santa Clara • Grand Ballroom, Salon E

Unlocking the Value of Business Intelligence:

Keys to Maximizing Business Performance

8:00am to 8:30am	**Registration and Networking Breakfast**
8:30am to 8:40am	**Introduction and Overview** Ron Milton, Executive Vice President, Computerworld
8:40am to 9:20am	**Business Intelligence Best Practice and Technology Overview** Bill Hostmann, featured Research Vice President, Gartner
9:20am to 10:00am	**Competing on Analytics** Thomas Davenport, President's Distinguished Professor of Information Technology and Management, Babson College
10:00am to 10:15am	**Refreshment and Networking Break**
10:15am to 10:50am	**Using Technology to Get Better Answers Faster** Keith Collins, Senior Vice President and Chief Technology Officer, SAS
10:50am to 11:25am	**BI at Pfizer: A Case Study** Danny Siegel, Director, Human Health Information Technology, Pfizer Global Pharmaceuticals Division, Pfizer, Inc.
11:25am to Noon	**User Case Study**
Noon	**Optional Luncheon and Presentation** Bill Hostmann, featured Research Vice President, Gartner

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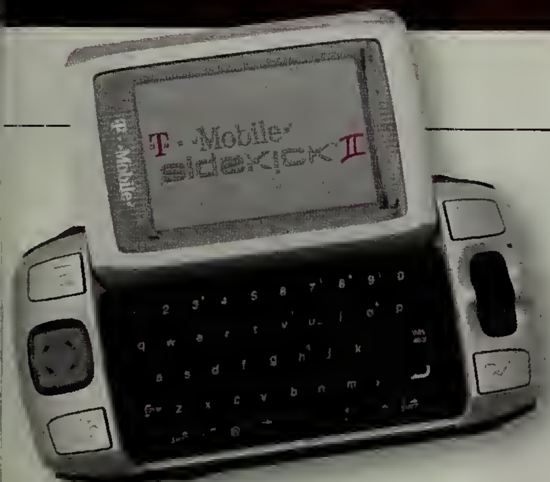
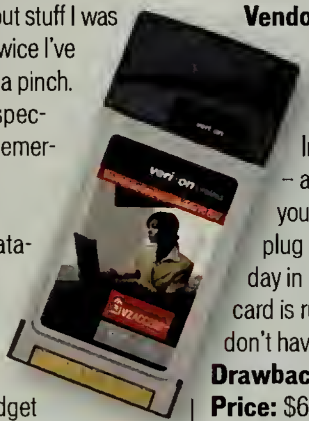


T-Mobile Sidekick II

What it is: Net access device/PDA/sub-sub-subnotebook/alarm clock/game machine/emergency phone
Vendor: T-Mobile USA Inc., *www.t-mobile.com/shop/phones*
Why we like it: What doesn't my Sidekick do? The alarm function goes off, and I glance at the weather and Google News while I'm waking up (not sad little mobile-phone versions of the sites, either; the Sidekick's browser can handle almost any regular page you throw at it). I can also use it to log onto AIM and check two e-mail accounts.

During the day, I'm checking its address book for contacts and adding and subtracting items from my to-do and shopping lists. At night, I'm probably playing a game or updating my list of the books I've read over the past five years, which I imported from my last PDA through the Web interface. I've used it in stores to do Web research about stuff I was thinking of buying. And once or twice I've used it as a phone when I was in a pinch.
Drawbacks: Battery life isn't spectacular. And it's best as only an emergency phone.
Price: $350 list ($249 with rebate). The monthly service data-only plan with unlimited data is $35 a month; phone calls are 20 cents a minute.
Who it's best for: Anyone who doesn't mind carrying a gadget made famous by Paris Hilton.
Recommended by: Angela Gunn, Security channel editor



Verizon Broadband Access Air Card

What it is: Nationwide high-speed Internet access, unplugged
Vendor: Verizon Wireless, *www.verizonwireless.com/b2c/mobileoptions/broadband/index.jsp*
Why we like it: It lets you get on the Internet wirelessly just about anywhere – and at broadband speed. If you travel, you won't have to pay hot-spot charges or plug into a hotel's network and pay $10 a day in broadband fees. And since the Verizon card is running on the cellular network, you don't have any Wi-Fi security concerns.
Drawbacks: It's a little pricey.
Price: $60 a month
Who it's best for: Road warriors.
Recommended by: Julia King, executive editor, events; Patrick Thibodeau, reporter

COOL WIRELESS STUFF

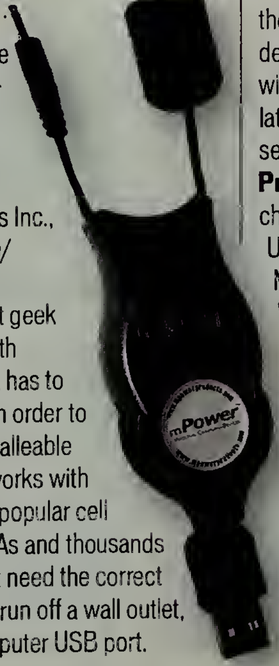
Computerworld staffers select some favorite wireless devices.

SURE, MOBILE DEVICES MAKE US MORE PRODUCTIVE and offer help in emergencies. And using them beats being tethered to an outlet. But the best wireless devices are also *fun*. Maybe it's because they're cool to look at, or perhaps it's that they're enjoyable to use. But practical isn't enough for the road warrior/gadgeteer.

Here are some favorite wireless products (and services) nominated by *Computerworld*'s staff.

If you've got recommendations of your own, send them to *editor@computerworld.com*.

SynCh Universal Sync Charger



What it is: A single device that can charge many wireless gadgets and also has a USB connection for data transfer
Vendor: Malleable Devices Inc., *www.mpowerproducts.com/synch.htm*
Why we like it: A gadget geek with an iPod, Treo, Bluetooth headset and digital camera has to haul around a lot of cords in order to rejuice all those devices. Malleable Devices says the SynCh "works with virtually all of today's most popular cell phones, music players, PDAs and thousands of other devices" – you just need the correct "mTip" connectors. And it'll run off a wall outlet, car cigarette lighter or computer USB port.
Drawbacks: Each time you get a new device, you'll likely need to order a new mTip so the SynCh will charge that device. It's only compatible with fourth-generation or later iPods. Camera options seem somewhat limited.
Price: $39.95, including charger, USB car adapter and USB travel adapter; $26.95 for charger only. MTips are approximately $6.95 each.
Who it's best for: Gadgeteers who frequently travel with lots of devices.
Recommended by: Lucas Mearian, Storage channel editor

Logitech LX 300 Keyboard and Mouse

What it is: RF wireless keyboard and mouse that work with both PCs and Macs
Vendor: Logitech Inc., *www.logitech.com*
Why we like it: Wired keyboards are a pain. Bluetooth devices require too many batteries, if you don't remember to turn them off. And who's been trained to turn off their keyboard? Get real. RF is ideal for keyboards and mice. And Logitech's are among the best in the business. They work flawlessly with both PCs and Macs, although they were designed for PCs.
Drawbacks: I have to unplug the USB connector from the PC to plug it into the Mac, and vice versa.
Price: $59.95
Who it's best for: Everyone.
Recommended by: Mark Hall, editor at large

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Struts

DEFINITION

Struts is an open-source framework for building Web applications using the model-view-controller design approach, in which business logic, executed by a Java servlet, is separated from presentation, managed by JavaServer Pages.

QUICK STUDY

BY RUSSELL KAY

IN HIS BLOG, Craig McClanahan recounts how, when he joined Sun Microsystems Inc. in 2000, he continued to support the development of an open-source application project. As part of that effort, he needed to take a U.S.-centric application and produce it in four languages and make it available to European users on the Web and through other channels.

McClanahan couldn't find a development framework that did what he wanted for the project, so he decided to create his own. "Open-source developers often call this 'scratching your own itch,' " he writes in his blog. The result was Struts.

Framework, as we use it here, refers to a set of libraries or classes for a specific operating system that developers can use to implement the standard structure of an application. Because it bundles a large amount of reusable code, a framework speeds development and saves the developer from having to rewrite standard code for each application.

McClanahan's framework worked well for his application, and he moved to make it an open-source project under the auspices of The Apache Software Foundation, which released it in December 2000.

"What happened next was nothing short of extraordinary," McClanahan writes. "Struts quickly became the de facto standard Web application architecture in the J2EE space (the number of significant Internet applications built with it is substantial, but is dwarfed by the number of intranet applications that use it)." Struts was integrated into many major application servers and tools and was "supported by a rich ecosystem of knowledgeable professionals and skilled developers, backed by significant documentation in the form of books and articles," he explains. It was eventually embraced by a large user community.

The name *Struts*, incidentally, was picked for its reference to architecture, as a reminder of the unseen pieces that support buildings and bridges, according to McClanahan.

Developing for the Web

Since Struts was developed for building Web applications, it has to handle the "stateless" connection between the client and server, in which the server disconnects as soon as a Web page is presented to the user's browser. Thus, if the user modifies the page (for example, by filling in a form or entering data), the server is unaware of the changes until the browser queries the server again.

Struts deals with this by implementing the model-view-controller, or MVC, design approach. Here, the user interface is decoupled from the data and business logic:

- **Model** contains the core of the application's functionality and/or encapsulates the application's state. It doesn't need to know anything about the view or controller.
- **View** is the look of the application to the user. The view knows nothing about the controller but can access (though not change) the model. View is implemented with no flow logic, no business logic and no model information — just JavaServer Pages, HTML pages, style sheets, JavaScript files, Resource bundles, Java beans and JSP tags.
- **Controller** manages the whole process by reacting to user input, then initializing and manipulating the model. The controller is typically implemented in Java as a servlet (a Java program that runs on the server; programs that run on a browser are called applets) and is configured by an XML file, struts-config.xml, that contains all necessary routing and configuration information. The controller handles the flow of the application but not the business logic.

Action classes, found in the controller, act as bridges between user-requested URLs and the application components that implement the business logic. Actions take a request and return an ActionForward object that identifies the next component to invoke. That next component might be a full-fledged application, a JavaBean, an Enterprise JavaBean, a CORBA object and/or a Java data object.

The Struts framework itself, it should be noted, is concerned only with the view and controller pieces; the model elements are completely defined by the developer and will likely be shaped by other software in use, such as database management and enterprise integration systems. In addition to being a development framework, Struts contains an extensive library of XML and JSP tags and utility classes that work independently.

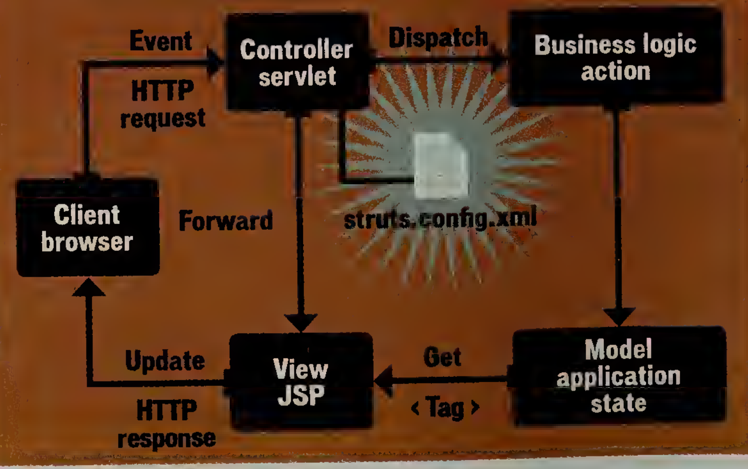
More Frameworks

Although Struts is quite popular, a host of newer frameworks have come onto the scene:

JAVA-BASED	
Spring	www.springframework.org
Tapestry	http://jakarta.apache.org/tapestry
Cayenne	www.objectstyle.org/cayenne
XForms	www.w3.org/TR/xforms
NON-JAVA	
Ruby on Rails	www.rubyonrails.org
WebObjects	www.apple.com/webobjects
Django	www.djangoproject.com
Catalyst	www.catalystframework.org
TurboGears	www.turbogears.org

How It Works

In the Struts framework, the controller servlet receives an HTTP query from the client browser. Based on its configuration file, the controller hands off execution to the external applications that perform the business logic (action) using the model data and application state. The resulting output is directed back to the client after being formatted via the view's Java server page.



Different Struts

Because of its status as the grandfather of Web application frameworks, the original Struts design predated many of the newer technologies that have since emerged. To keep Struts current, its development in the Apache Struts project now consists of three separate frameworks, two fully implemented and one in transition:

- **Struts Action 1** is the original request-based framework, as described above.
- **Struts Shale** is a next-generation, component-based framework for JavaServer Faces, a technology for building user interfaces for Web applications. JSF technology includes a set of APIs and a JSP custom tag library for representing user interface components and managing their state, handling events and input validation, defining page navigation, and supporting localization/internationalization and accessibility. (Echoing the meaning of the geological term, the *Shale* moniker references the framework's layered approach.)
- **Struts Action 2** is under development. An extension of Action 1, it will incorporate the code of and build on OpenSymphony WebWork (another Java-based development framework), which is now part of the Apache Struts project. Essentially, Struts Action 2 will be what would have been called WebWork 2.3. ▸

Kay is a Computerworld *contributing writer in Worcester, Mass. You can contact him at russkay@charter.net.*

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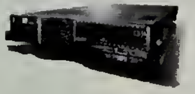

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BRIEFS

Open-source Jitterbit Debuts

- Jitterbit Inc. has released its eponymous data integration software. Jitterbit runs on Linux and Windows and allows users to connect XML, databases, and simple and hierarchical files through various transport protocols. The company offers a free community edition of Jitterbit and a professional version that starts at $9,995 per server per year. Both versions are aimed at small and midsize companies.

Oversight 4.0 Aims To Mitigate Risk

- Oversight Systems Inc. has introduced Oversight 4.0, a risk-based system for managing the segregation of duties across financial systems and processes for compliance with the Sarbanes-Oxley Act. The Linux-based module is priced at $40,000. Pricing for the Oversight software platform starts at $45,000.

FastTrack Project Manager Updated

- AEC Software Inc. has released FastTrack Schedule 9.0.1. The update to AEC's project management application offers enhanced data exchange with Microsoft Project through XML, new support for opening Microsoft Project template files, and the ability to acquire project data through MPX files created by other programs. A FastTrack Schedule 9.0.1 Updater is available as a free download for users of FastTrack Schedule 9. Free trial versions are also available online. Pricing for new customers is $349, and upgrades from 7.x and 8.x versions start at $149.

BPM Tool Adds Rules Modeling

- IDS Scheer AG and Corticon Technologies Inc. announced plans to integrate their tools. IDS will use Corticon's business rules modeling tool in its ARIS business process management products. The updated ARIS will be available later this year.

DOUGLAS SCHWEITZER

Malware Challenges in A Cross-Platform World

BACK in the early days of computing, nodes of computer networks largely consisted of mainframes and minicomputers. Users accessed the network only by means of a terminal connected to the mainframe. In fact, back in the late 1970s, my first "real" job was assembling terminals to be used within mainframe environments.

DOUGLAS SCHWEITZER is a freelance writer and Internet security specialist in Nesconset, N.Y. He can be reached at **dougneak@juno.com**.

With the advent of the inexpensive and powerful personal computer, networks have evolved and are now implemented exclusively using small computers connected among themselves and to the Internet. Don't get me wrong, though — the mainframe isn't dead yet.

In fact, Gartner estimates that more than 80% of business applications are written in Cobol, one of the earliest high-level programming languages. But the truth is that, although still alive and kicking, the mainframe has nevertheless lost ground in our current environment, which is focused on PCs and distributed server architectures.

Today, computer security presents a far greater challenge than it did in those early days. In the purely mainframe era — or even in earlier days of network computing — there were no widespread viruses or spyware to deal with, and security wasn't nearly as complicated as it is now. That is primarily because the Internet hadn't been factored into the computing equation.

Sure, there was the infamous Morris worm launched way back in 1988, but that pales in comparison with what today's script kiddies can conjure up and distribute on our modern, densely populated information superhighway.

The sad fact is that the Internet is rife with malware and spyware and hackers, and they are headaches that network administrators will have to deal with on a regular basis for the foreseeable future.

As if that onerous task wasn't enough, today's systems administrators often have to do their jobs while managing several different operating systems. Windows — still the most popular operating system worldwide — might start to lose a little more ground to Apple's Mac OS X and various incarnations of Linux simply because those systems aren't targeted by the bad guys as often as Windows and are therefore perceived as safer. Because those systems are less of a target, some network administrators have believed that their Mac and Linux boxes can be run without antivirus software. Bad mistake. Viruses such as "Virus.Linux.Bi.a/Virus.Win32.Bi.a," which appeared in April, prove that it's possible to create viruses capable of infecting both Windows and Linux.

I have little doubt that we'll continue to see increasing interest among the malicious fraternity of virus writers in creating more cross-platform malware and attacks. Therefore, when it comes to the heterogeneous computing environment, you'll need to have virus protection on all your machines — even those that haven't been targeted as often in the past.

Unfortunately, while the number of antivirus choices available for Windows is astounding, the selection for Macs and Linux is sadly lacking.

There are versions of the Clam AntiVirus freeware for Linux, Mac and Windows systems. For a mixed Linux, Mac and Windows environment, you can get products from Sophos (which I use on my Mac), McAfee and Symantec that also cover all three. For mixed Windows and Linux environments, there is also Kaspersky Lab, F-Prot, Panda and Grisoft, to name just a few. Some of these are even offered as freeware, which means there's no excuse for running bare.

As for future targets, the Macintosh is likely to see still more action. Adding even more temptation for the virus-writing underworld, the Mac is now using Intel chips. This allowed Apple to come out with software called Boot Camp (*www.apple.com/macosx/bootcamp*), a free download that allows users to boot their Macintosh computers into either Mac OS X or Windows.

I think it won't be long before the architects of digital disease are freely distributing equal opportunity malware that can infect Mac OS X, Windows and Linux — sometimes zapping a couple of targets on the same piece of hardware.

One final note regarding keeping heterogeneous networks virus-free: Malware is often written to take advantage of flaws in programming. Flaws affect every operating system, so regular patching of your Windows, Linux and Mac machines remains paramount. When searching for a patch management tool for your heterogeneous environment, look for one that covers more than one operating system. ▸

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MANAGEMENT

05.29.06

HOW TO

Building a Vendor Scorecard

You have measure what you manage, but before you start measuring your IT vendors, think hard about what you want to learn. Here are five key issues to consider. **PAGE 36**

ADVICE

Managers' Forum

When should a manager intervene in a dispute between subordinates, and when should he let them duke it out? Paul Glen offers some guidelines. He also discusses how to get the most out of job rotations. **PAGE 38**

OPINION

The Care and Feeding Of Consultants

Consultants bring useful flexibility to an IT department, says Paul M. Ingevaldson, but how you use them can make or break your team's morale. **PAGE 40**

At Pitney Bowes, anthropologist ALEXANDRA MACK helps JIM EUCHNER's IT group develop user-centric technologies.

JOHN RAE

THE USER'S VIEW

Anthropologists help IT focus on how employees really work.

BY MARY K. PRATT

WHEN DAVID LINDAHL added a new position to his unit, he didn't hire a programmer, a business analyst or a network administrator. He hired an anthropologist.

Lindahl, a computer scientist who co-manages the digital initiative unit for the University of Rochester's River Campus Library, hired Nancy Fried Foster two and a half years ago as lead anthropologist and co-manager of the seven-member group. He says Foster helps her co-workers see problems and solutions that they might otherwise miss.

"The values that her profession brings raise the quality of the work," Lindahl says.

The same is true at Stamford, Conn.-based Pitney Bowes Inc., which provides software, hardware and services to help companies manage their flow of mail, documents and packages. Jim Euchner, vice president of advanced technology and chief e-business officer, first worked with an anthropologist about 15 years ago when he was an IT executive at the former Nynex Corp. Based on his successful experience there, he brought the practice to Pitney Bowes in 1999. He says his decision is paying off, since his two anthropologists continually bring unique perspectives to projects.

A Different Approach

The IT world has a bias that automation is always good. Technologists bring that bias to the drawing table when they design products, and it can sometimes blind them to the true needs of users. Enter anthropologists, who are trained to ask questions about how people work, how they relate to others, which tools they use and which ones they don't. That kind of research allows anthropologists to see the world from users' perspectives.

Although IT anthropologists are far from common, some companies and IT shops are hiring them to provide that insight, which in turn helps technologists develop applications and systems that best meet users' needs. IBM computer scientist Eser Kandogan sums up the relationship like this: A technologist can make a tool usable; an anthropologist can make sure it's used.

Kandogan works with anthropologist Jeanette Blomberg, manager of the people and practices group at IBM's Almaden Research Center in California. Blomberg says she and other anthropologists use surveys, focus groups, interviews and observations to learn what people need to do their jobs.

"People who aren't trained as anthropologists often come to solutions very quickly," Blomberg says. "They don't often take the time to ask, 'Why are people doing it that way?' "

At IBM, Blomberg studied how systems administrators did their jobs and found that they developed their own local tools — spreadsheets, programs and bits of code — to help them manage their systems.

Based on Blomberg's observations, Kandogan and others designed a program that facilitated the systems administrators' efforts to develop local tools. Moreover, Kandogan's program contained a collaborative element that enables systems administrators to share their individual tools — a feature that came specifically from Blomberg's observations.

At the University of Rochester, Foster studied how faculty worked. Her research led to a customized application that allows faculty members to create a page showcasing their work. "At all the other institutions where this is installed, no one has come up with what we have," Foster says. She adds that understanding the faculty's needs was instrumental in the decision to customize.

No Boundaries

That dynamic doesn't surprise anthropologist Patricia Sachs, founder and president of Social Solutions Inc., a consulting firm in Half Moon Bay, Calif. "Technologists tend to look at the user and the user's relationships to the technology. It tends to be very task-focused. And the funding for a lot of technology tends to be done by the business unit, so it has boundaries around what it's going to try to fix," she explains. "Anthropologists look at the missing social layer."

That's clear when anthropologist Eleanor Wynn describes her work. As a social technology architect at Intel Corp., Wynn was part of a cross-functional group that studied how employees work together across time and distance. Wynn asked questions such as "How much do you socialize with teammates outside of meetings?" and "How often do you socialize with people sitting around you who aren't your teammates?"

"That's something that might not be asked by a regular IT person but still influences what kind of social aspects are built into a tool," Wynn explains. As a result of her work, she says, Intel technologists are designing a program prototype for collaborating virtually that enables multiple ways of communicating, such as a shared whiteboard and instant messaging.

"Some of the data she uncovered was key to our design of our environment," says Cindy Pickering, a principal engineer in Intel's IT Collaboration Research Lab.

Still the Exception

Despite such successes, though, the use of anthropologists within IT organizations is limited, says Ed Liebow, a senior research scientist at Battelle Memorial Institute, a company in Columbus, Ohio, that develops and commercializes technology and manages laboratories for customers. "It's still exceptional rather than the main pattern," he says. But that could change. Liebow, a past president of the American Anthropological Association, says there's a growing demand in corporate America for practicing anthropologists.

But there are still considerable obstacles to widespread use of anthropologists in IT, Euchner says. He cites two main factors. "It's hard to justify the cost in ROI terms," he says. "The dominant trend — routinizing the work, offshoring where you can — drowns out other voices."

> PEOPLE WHO AREN'T TRAINED AS ANTHROPOLOGISTS OFTEN COME TO SOLUTIONS VERY QUICKLY. THEY DON'T OFTEN TAKE THE TIME TO ASK, 'WHY ARE PEOPLE DOING IT THAT WAY?'
>
> **JEANETTE BLOMBERG,**
> ANTHROPOLOGIST

In addition, Euchner says many IT departments don't have the kind of environment that would welcome anthropologists. "An IT initiative that starts with the presumption that work is essentially something that needs to be processed, mapped, rationalized and systematized and that the people need to conform with that — that's really not a place where an anthropologist will have a voice," he says.

Ironically, though, IT departments that work like that are the ones that could most benefit from the insight that anthropologists offer, Euchner says. "What can get lost under those pressures is a focus on how people do work, and that's what anthropologists bring to the table," he explains.

One of those anthropologists is Alexandra Mack, who works in research and development as part of the Advanced Concepts and Technology group at Pitney Bowes. She helps study work processes alongside other team members, including technologists. The team then uses the information to develop new technologies for various markets.

One of her teams recently studied how small businesses handle bulk mailing. As a result of that research, Pitney Bowes is developing a software application that will help them be more efficient in that process.

Bringing such practices to IT fits in with the overall push to align the tech world with the business realm, Mack and others acknowledge. But even given this alignment trend, Sachs says technologists still have limited ability to garner such insight on their own. "It's a very important thing that technologists are being asked to have a broader view, but they [still] see a problem from their frame of reference and they see a solution from their frame of reference," she explains.

But Wynn says even companies that don't hire anthropologists are benefiting from their work, as anthropological tools and approaches used in places such as Intel, IBM and Pitney Bowes bleed out to other companies. "The methods and approaches of anthropology have spread a lot," she says, "and with that, there is a potential for a very large impact." ▸

Pratt is a Computerworld *contributing writer in Waltham, Mass. Contact her at marykpratt@verizon.net.*

ROI: SIGNIFICANT

STUDIES SHOWING the return on investment that anthropologists bring to IT are hard to come by – if they exist at all, but Jim Euchner has some figures that proved the value to him.

As vice president of process improvement at Nynex in the early 1990s, Euchner oversaw the deployment of a system designed to diagnose problems with phone lines. To his surprise, workers in the 42 maintenance centers equipped with the new Maintenance Administration Expert (MAX) used it differently from site to site. Some managers loved it, while others hated it, saying it made their work harder.

Euchner was confused by the differences and, at the urging of another manager, hired anthropologist Patricia Sachs to figure out what had gone wrong and help fix it.

With her assistance, he discovered that there were problems with the way people perceived the system, the way management perceived the work and the way people were measured. "But with Pat's help, we were able to tweak the system to make it work differently for different people, so in the end everyone used it," he says.

Euchner estimated that it cost Nynex about $1 million to develop and deploy MAX, which helped the company save $4 million to $6 million annually. Euchner points out that a healthy chunk of those savings would have been lost if MAX hadn't been used in all 42 maintenance centers.

Convinced that Sachs' insight as an anthropologist could have a significant and tangible impact, Euchner used her services once again in the mid-1990s. At that time, Nynex was losing market share to competitors that were able to provide high-speed data lines much more quickly than it could. Nynex officials wanted to know the reason for the lag.

Sachs led a team of Nynex workers charged with finding some answers. They learned that orders for high-speed lines took weeks to fill because they passed through multiple workers and systems. Sachs worked with Nynex employees to redesign the flow using existing technology.

As a result, Nynex cut the cycle time for orders from 30 days to just three, Euchner says. The company gained market share and cut the costs of filling an order in half.

– MARY K. PRATT

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Building a Vendor Scorecard

Here are five key issues to consider before you start. By Christine Dunn

WHEN JIM HEALEY, vice president and CIO at Affymetrix Inc. joined the biotechnology firm in February, the first thing he did was ask for a list of all the Santa Clara, Calif.-based company's IT vendors, sorted by the dollar amount of business that had been conducted with them in the past two years.

Affymetrix used its vendor scorecard, fed by data from its ERP system, to compile the data. With that information, Healey could easily see the top 15 companies whose representatives he needed to meet. The scorecard also provided the names of the account executives for every vendor, giving Healey the opportunity to contact each one proactively.

"I found many names in that list, such as Microsoft, IBM, Cisco and Sun, but I also found names that were unfamiliar to me, including some temporary employment agencies and technology service providers," Healey says.

He reached out to these top vendors to introduce himself and to get familiar with their businesses. "Without a scorecard, I wouldn't have been able to do this right away," he says.

IT managers use scorecards to organize and evaluate data about their IT suppliers and processes. Scorecards allow them to monitor the performance of their vendors in order to cut costs, mitigate risk and drive continual improvements in products and services. It's the measure by which they manage vendors. Here are five key issues to consider in building your own scorecards.

SUPPLIER PERFORMANCE MANAGEMENT SCORECARD

SUPPLIER XYZ CORP. 2nd Quarter: April - June 2006 Respondent's Name: John Doe	Weighting (%)	RATE SUPPLIER REQUIREMENT 1 Does not meet	2 Barely meets	3 Meets some	4 Meets most	5 Fully meets	Score
Account Management Responsiveness	35%						
Supplier understands company's requirements					4		4
Supplier contact is knowledgeable on products/services					4		4
Supplier communicates all relevant information efficiently		1					1
Company can easily find right supplier contact when needed					4		4
Supplier provides information on "best in class" practices					4		4
CUMULATIVE SCORE							17
TOTAL BASED ON WEIGHTING %							6
Customer Service, Quality and Delivery	25%						
Deliveries are prompt, complete and free of defects					4		4
Delivery documentation is detailed and correct				3			3
Products and/or service meet expectations					4		4
Supplier provides proper support					4		4
Supplier handles concerns/issues appropriately			2				2
Supplier meets service/support commitments						5	5
CUMULATIVE SCORE							22
TOTAL BASED ON WEIGHTING %							5.5
Financial	20%						
Value of supplier's products/technologies/services is high			2				2
Proposals/invoices are accurate and timely				3			3
Supplier's pricing is competitive		1					1
Reports are prepared on a monthly and ad hoc basis				3			3
CUMULATIVE SCORE							9
TOTAL BASED ON WEIGHTING %							1.8
Relationship	20%						
The working relationship with supplier contacts is strong						5	5
Overall, the relationship with supplier is good					4		4
We would renew contract(s) with supplier					4		4
CUMULATIVE SCORE							13
TOTAL BASED ON WEIGHTING %							2.6
						TOTAL SCORE	15.9

SOURCE: ADAPTED FROM THE ALLSTATE CORP., NORTHBROOK, ILL.

1. METRICS. The effectiveness of a vendor scorecard depends on the type and quality of the information that it tracks. The most common mistake companies make is trying to measure too many things and losing focus on key metrics for the business, says William Maurer, an analyst at Gartner Inc.

Another mistake is collecting the most accessible data. "People tend to collect the information that is easiest to get," says Sherry Gordon, vice president of supplier performance intelligence at Emptoris Inc. "You have to collect the right stuff."

Managers who will be using the data need to decide what they're trying to accomplish with the information. Measures to manage the costs of products and services will be different from those used to improve quality, for example. "You don't want to just collect the data for the sake of data," Gordon says. "You need to be able to take action on the information."

The Allstate Corp. focuses its scorecards on performance criteria, including how well suppliers meet their deadlines, the quality of the service received, and whether products and services meet Allstate's budgetary goals. Scorecards help take the emotion out of the rankings. "We really like to focus on the performance of suppliers rather than on relationships," says Lori Yelvington, assistant vice president for procurement governance. "We have scorecards so that we have solid facts to base our relationship on."

……

2. FORMAT. Scorecards range from simple spreadsheets to sophisticated software embedded in a company's ERP system. Anne Marie Biernacki, chief technology officer and co-founder of The Digiticians LLC, says it can be as simple as a table in a Word document.

In contrast, at Affymetrix, the ERP system tracks each vendor's transaction record, including purchase orders, invoices and shipments, for use in the scorecard. It also has a system that tracks the quality of products delivered and the time it takes to resolve problems related to quality. "We have different layers or systems [and] many users that contribute information on vendor performance," Healey says.

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3. STANDARDS. A common mistake with novice scorecard designers is to look for standard measures to use, Maurer says, but there are none. What is right for one company may not be right for another, so when building a scorecard, make sure you tailor it to deliver the specific information you need.

Many organizations, particularly those that outsource their IT infrastructures, use service-level agreements (SLA) as foundational criteria for building a scorecard, Maurer says.

"We start out with the SLAs in the contract" when developing some scorecards, says Yelvington. "Those are real. Everyone knows what those are, and they are pretty easy to grade."

....

4. COLLECTION. There are various methods for gathering the data needed to create a vendor scorecard. Some companies, like Affymetrix, tap into ERP systems. At others, IT managers visit suppliers to get a detailed look at how they operate and to ensure quality. Many get information through internal customer surveys.

For key vendors, Allstate polls its employees, asking questions such as whether the vendors invoice properly and provide good reports and high-quality customer service. The survey may also include more subjective questions, such as whether an employee would recommend renewing the contract, Yelvington says.

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5. USE. Using the information is the whole point of the scorecard.

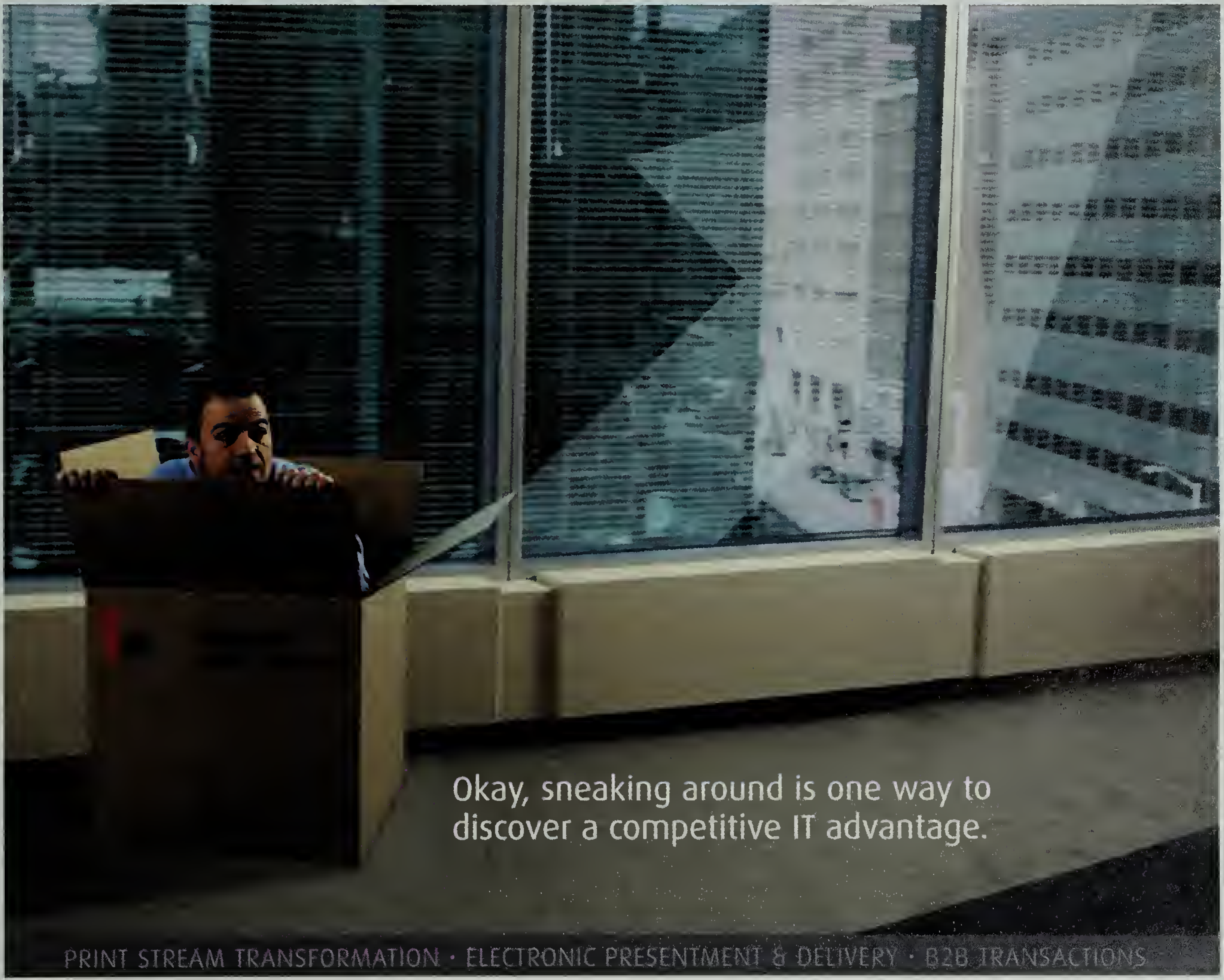
"What you do with the results is what helps determine if a vendor scorecard is successful," Maurer says. "If you're a service recipient and the vendor is supposed to be meeting service levels and they don't, how do you remedy that? How do you make it better and improve processes?"

Start by telling suppliers the criteria by which you are measuring them. "It's almost like an employee performance review," Yelvington says. "We get an average of what their grade is for the time period, and that's what we show suppliers during meetings with them."

Invite vendors to work with you on compiling and evaluating the information. If they value the relationship, they'll see the scorecard as a collaborative effort. If they don't, you'll notice.

"The point," says Healey, "is to have a scorecard available so that you can make decisions quickly." ▸

Dunn is a freelance writer in Belmont, Mass. Contact her at cdunn@savoirmedia.com.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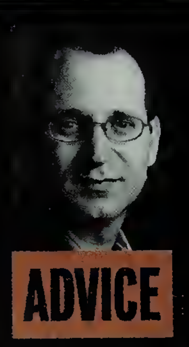


Welcome to the Managers' Forum! I hope this monthly column will provide a lively exchange of ideas with IT managers. I'll do my best to answer your questions, and some of your responses will run alongside in "Readers Talk Back." Please send your questions, comments and critiques to me at pglen@c2-consulting.com.

Q I've been working in IT for 20 years. I worked at a large, reputable company for 10 years. While with that company, I learned that people can try to resolve conflict by themselves and that managers will become involved when people can't resolve those conflicts. Since I left, I've worked at many start-up companies, and I've noticed that there seems to be a trend in management to let parties resolve their own conflicts. While I believe that people should resolve their conflicts directly if they can, I also believe that many times the conflict can't be resolved without a mediator. And as long as there is conflict, people will not truly work together effectively for a common goal. Is this just bad management practice, or is it a trend? There's an ongoing debate about how to manage in general, and how to manage conflict in particular.

On one side are those who suggest that managers should lead quietly from the sidelines and only facilitate the activities of their teams. On the other side are those who believe that Machiavelli probably had it right: Pure power is the route to order and productivity.

Most of the time, these arguments are based on the successes (rather than the failures) of political, military, religious, moral and/or high-level business leaders. Rarely are they couched in the down-to-earth lives of middle managers in modern corporate structures. The underlying assumption is that what works for the grand and heroic will transfer unchanged into the ordinary, workaday life of the cubicle.

These arguments are by nature philosophical and not necessarily practical. They explore general principles of management and are rarely subtle enough to account for differing styles and behaviors appropriate for different types of work, different staff populations and different corporate or national cultures.

That said, I doubt that all the philosophical wrangling among academics, journalists and consultants is responsible for the behavior you are witnessing with increasing frequency. Despite engaging in such conversations myself, I don't know how much influence they have on the practice of individual managers. My guess would be that what you are experiencing is not the result of a management trend but of some patterns in technical management that I have observed.

1. Technical managers tend to promote their best technicians into management roles despite all the evidence that it's not a great idea.

2. The best technicians tend to be somewhat introverted and are often uncomfortable with conflict.

3. Managers tend to follow their own comfort when making tactical decisions (and then define their comfort zones as good management practice).

4. Managers often don't feel qualified to decide who's right in a detailed technical battle and fear exposing their own inadequacies. This adds up to the "I'll stay in my office while you guys fight it out" approach.

My take on it is that there are times when this is appropriate and times when it is not.

Q Follow-up: When and how would you, as a manager, step in to resolve a conflict? How a manager should address a conflict really depends on what the conflict is about and how it is being handled.

The tricky part is that what people openly fight about is usually not what they are really fighting about. While two people may sit in a meeting and slug it out over whether extreme programming is appropriate for a project, they may really be trying to position themselves for a new project, a promotion or the informal title of "smartest geek." The source of their conflict may be a genuine desire for the group to do what's right, or they could just be marking territory like cats peeing on the sofa.

Whether to intervene also depends on whether the combatants are behaving professionally. How they comport themselves will also determine whether a conflict is constructive or destructive.

Knowing how to step into these situations requires a strong sense of what's really going on. When a conflict is both constructive and professional, it often makes sense to allow it to proceed. When it's personal and nasty, a strong hand is required.

Q What do you think about job rotations as a technique for leadership development? Job rotations can be a great way for future leaders to get to know all areas of a business. They can help employees develop an understanding of different roles and business functions that will add to their maturity and loyalty to the company. They can also help them develop relationships throughout the organization.

But to provide those benefits, such programs need to involve more than throwing participants into different jobs over time. To really learn, the employees must reflect carefully on their experiences. This reflection makes the difference between having seen things and having learned things. Too often, future leaders rotate jobs but don't receive the guidance they need to actually take the best advantage of the opportunity. ▸

Readers Talk Back

More on Influencing Project Stakeholders

Hi, Paul,

On the question of a software development project manager being dependent upon outside people, here are some approaches I have used in the past in similar situations.

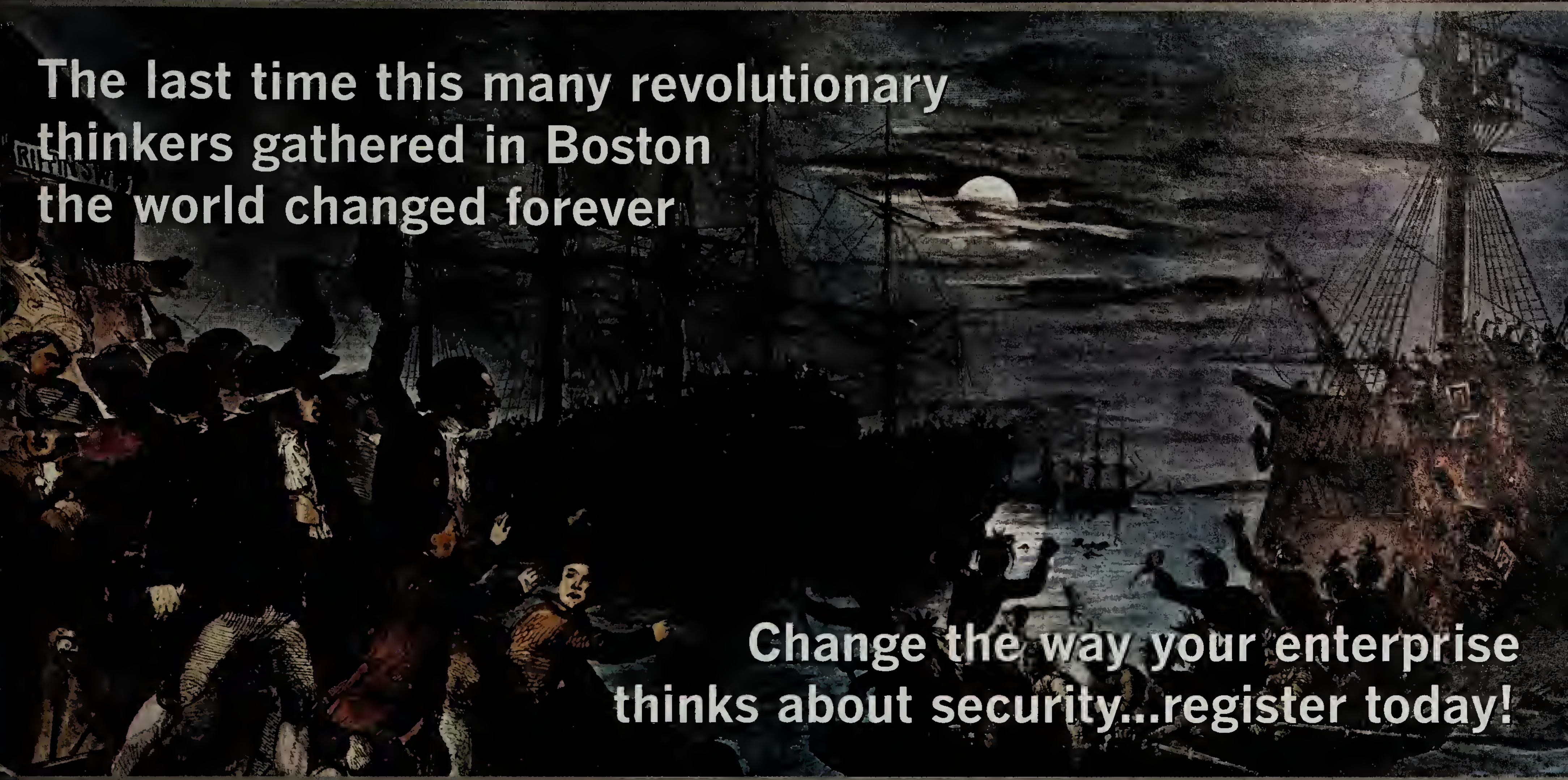
- Communicate your needs early and often to outside stakeholders and their supervisors. Make sure they know what is coming so that they can plan for it. It is often best if you ask for their advice on the task and when to do it. If you can get them to describe the necessary steps, you will much more likely get the results you're looking for when the time comes.
- Establish an informal relationship with your outside stakeholders. Try meeting them for coffee, lunch or general bull sessions. It makes it much easier to discuss conflicting interests if you have previously established a friendly relationship. You may not always get everything you want, but you can fairly negotiate trade-offs.
- Use periodic risk analysis sessions to prebrief your sponsor on potential problems. Don't wait for the problem to arise before letting your sponsor know about it. Often, your sponsor can provide subtle backdoor influence regarding departments outside your direct control. Don't be a whiner, but dependencies on other personnel should be discussed as a risk far in advance, and in particularly political environments, a mitigation plan should be discussed with your sponsor.

Rarely does a project manager have control over all of the people and things that may affect his project. Communication, both formal and informal, in the best case can prevent difficulties from arising, but in the worst case, they ensure that the difficulty is not a surprise to anyone.

– W. M.

Thanks for your thoughtful comment and for sharing the techniques. Great ideas, all. I think that you're right: No amount of methodology or formal commitment can substitute for a strong professional relationship with the sponsor.

P. G.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EXEC TRACK

Lane Named CIO At National Grid

National Grid, an energy business in Westboro, Mass., has chosen **KATHY LANE** as its first CIO, covering both U.S. and U.K. operations. Lane joined National Grid from The Gillette Co., where she had served as CIO since 2002. Previously, she held several management positions at General Electric Co. and was director of technology services at Pepsi-Cola International.

BearingPoint Selects Goldfarb as CIO

McLean, Va.-based management and technology consulting firm BearingPoint Inc. named **ERIC GOLDFARB** executive vice president and CIO. Goldfarb was most recently CIO at PRG-Schultz International Inc. Prior to that, he was CIO at Global Knowledge Inc., CIO/chief technology officer at Macmillan USA and CIO at Elder-Beerman Stores Corp.

Ann Taylor Picks Kingston as CIO

New York-based specialty retailer Ann Taylor Stores Corp. announced that **MICHAEL KINGSTON** has joined the company as CIO, reporting to Tony Romano, the company's chief supply chain officer. Previously, Kingston was vice president of applications at Coach Inc. and international director of information services at LVMH Moet Hennessy Louis Vuitton.

Northrop Grumman Appoints Three in IT

Northrop Grumman Corp., a defense contractor in McLean, Va., has appointed three vice presidents to key positions within IT. **STEVE PERKINS** is now vice president of Washington operations, **KENT SCHNEIDER** is vice president of business development, and **DAVID ZOLET** is sector vice president and president of the defense group. All report to James R. O'Neill, corporate vice president and president of the IT sector.

PAUL M. INGEVALDSON

The Care and Feeding Of Consultants

RECENTLY, I read an opinion piece in *Computerworld* by Bruce Stewart ("Time to Think About Your Legacy," Feb. 6). It was an excellent article concerning the problem of legacy systems and how to refresh them. Midway through the piece, I read something that surprised me: "The typical U.S. IT shop hasn't done anything interesting in years. Consultants have done all the heavy lifting."

Initially, I was incredulous. That sure hasn't been my experience. Then, as I reflected, I thought that maybe that *is* a common situation in many IT shops. I remembered a conversation that I had with a former colleague who ran IT at a large Fortune 500 company. He proudly boasted about how he used consultants regularly because he didn't think his people had the ability to do the job. He actually felt that the consultants would show his people up and prove to them that they had a lot to learn. Perhaps it was this attitude that Bruce was confirming.

PAUL M. INGEVALDSON retired as CIO at Ace Hardware Corp. in 2004 after 40 years in the IT business. Contact him at **ingepi@aol.com**.

There could also be other reasons. Perhaps there are CIOs out there who don't want to spend the money to train their internal staffs. Perhaps others just don't feel that there is enough time to do the training, since the deadline is always yesterday. Or perhaps some shops just don't want to bother keeping their staffs up to date. It's easier to call in the consultants for the new stuff and let the current staff maintain the existing systems.

When I ran IT, we never did it that way. Sure, we used consultants on occasion, but in a very controlled way. In general, we would always be sure that our people were involved in new development. We always felt that the new stuff was the most interesting and that our people were smart enough to learn new things. In fact, we felt that if we gave the new stuff to consultants, we would lose our people. They would be able to easily see where the excitement was and would join the ranks of the hired guns.

I remember one time our company president and I were part of a large industry group that went to see a new system installed in the distribution center of one of our competitors. The center was operational as we walked from station to station to learn about the features of this new system. At each station, the company's existing staff explained the old system and the outside consultants explained the new system. I remember remarking afterward that the system was owned by the consultants, not the internal staff. Sure enough, the systemwide rollout was unsuccessful and was ultimately scrubbed.

In my judgment, there are several policies you should follow when using consultants:

Always assign new projects to existing employees. There is nothing more exciting than to be on the ground floor of a technology.

If the existing staffers lack the necessary skills, train them. IT people have a great capacity and desire to learn new technologies.

If there isn't time to train your employees, hire consultants to train them while they work together. Make sure that knowledge transfer is part of the contract.

Always have start and end dates with consultants. Make sure they understand the scope of the project from the beginning. Never-ending contracts have a negative impact on your IT staff.

If you have a short-term demand and you don't want to hire new employees, hire consultants to handle the additional workload but assign them to the maintenance work.

I have always felt that one of the most important jobs of the CIO is to maintain a strong and motivated workforce. Nothing hurts the completion of a project more than loss of personnel. And nothing will lead your people to jump ship like the feeling that they're seen as second best. If your people feel that they are constantly being challenged with new and exciting projects, however, they won't be looking elsewhere.

In IT, the work is very motivating if the people feel that they are continually learning and improving their internal résumés. That's the way that you build a strong and vibrant department that is trusted by your users and able to make deadlines and stay within budget. That's the way to get your employees to do the heavy lifting and be proud of the effect that they are having on their company. ▸

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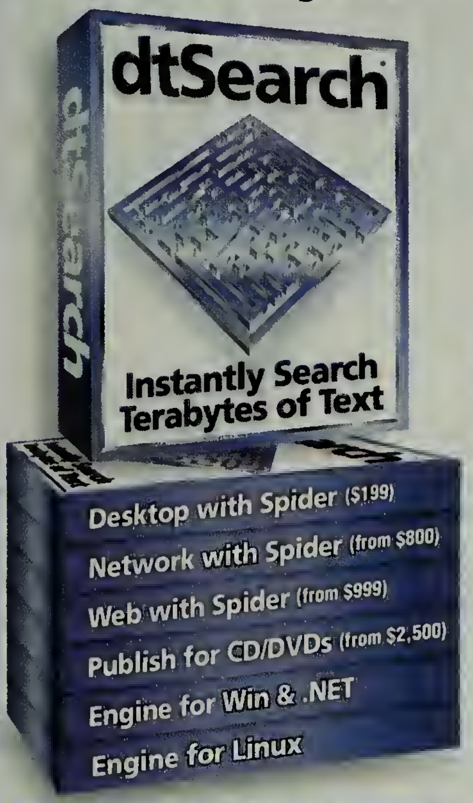
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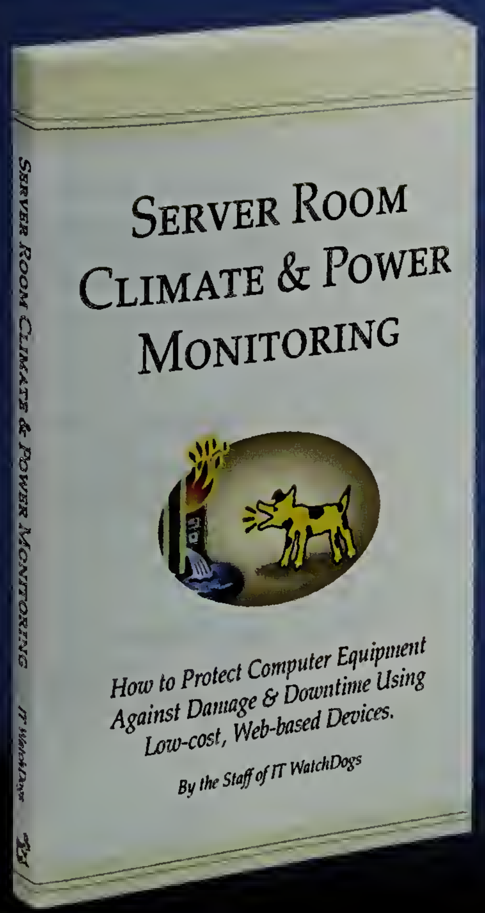
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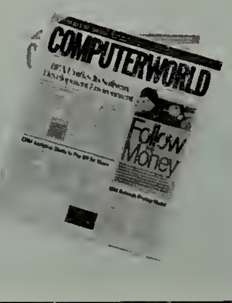

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IT Changes

start. The security snafu is the latest in a series of IT missteps at the agency. In March, for example, it was given an F on computer security for 2005 as part of an annual report card issued by the House Committee on Government Reform — the fourth time in the past five years that the VA has received a failing grade.

In addition, some federal lawmakers have been pushing the VA to centralize its IT budgeting process, which is largely split among three separate divisions. U.S. Rep. Steve Buyer (R-Ind.), who is chairman of the Veterans' Affairs Committee, reiterated last week that an IT overhaul is needed at the agency.

Buyer said the data theft is part of a long history in which VA officials have resisted changes to the agency's IT management infrastructure and its information security efforts. "There are systemic flaws," Buyer said.

George Opfer, the VA's inspector general, told members of Congress last Thursday that the data analyst whose Maryland residence was burglarized on May 3 had been improperly taking data home with him for at least three years.

The initial response to the data theft also was problematic. Nicholson said one of his deputy secretaries didn't tell him about the incident until 13 days after it took place. "I can't explain the lapses of judgment on the [part] of my people," Nicholson said. "We will stay focused on these problems until we get them fixed."

Looking beyond the VA, the data theft strengthens the case for the adoption of new federal privacy laws, said privacy advocates and industry officials.

The sheer scope of the compromise drives home the need for a fundamental revamp of existing privacy protections,

> **I can't explain the lapses of judgment on the [part] of my people. We will stay focused on these problems until we get them fixed.**
>
> **R. JAMES NICHOLSON,** SECRETARY OF VETERANS AFFAIRS

said David McGuire, a director at the Center for Democracy and Technology, an advocacy group in Washington.

The Privacy Act of 1974, which currently regulates the collection, use, storage and dissemination of personal data by government agencies, is poorly enforced and in need of modernization, McGuire said. "The Privacy Act was written in the time of the mainframe," he noted. "We think it needs to be updated."

Incidents such as the theft of the VA's data highlight the need for a technology-neutral federal law that holds companies accountable for the data they manage, said Lisa Sotto, a privacy lawyer at Hunton & Williams LLP in New York. Such a law would need to preempt the patchwork of state-level breach-notification laws that companies now must comply with, Sotto added.

The VA breach is another example of why Congress should consider prohibiting the use of Social Security numbers for authenticating end users, said Thomas Oscherwitz, vice president of government affairs and chief privacy officer at ID Analytics Inc., a San Diego-based vendor of identity risk management and fraud-prevention tools.

"Organizations that use Social Security numbers as a password or username are employing poor security practices that expose their customers to fraud," Oscherwitz said. But, he added, it would be a mistake to restrict the use of Social Security numbers as "identifiers" that help companies confirm they're dealing with the correct individuals.

Last week, the Missouri-Illinois Blood Services Region of the American Red Cross changed the database software used by its blood-drive recruiters, eliminating their ability to access donors' Social Security numbers. The recruiters now can view only the donors' names, phone numbers and birth dates, a spokesman for the regional agency said.

The software change came one week after the Red Cross warned about 1 million blood donors in the Missouri-Illinois region that their personal data might have been stolen earlier this year by a now-former employee and used in identity thefts. "We feel like victims here as well," the Red Cross spokesman said, "but the ultimate victims are our donors." ▶

Gross writes for the IDG News Service. Computerworld's Todd R. Weiss contributed to this story.

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Safeguards

O'Pry's sentiments were echoed by several other IT managers in the wake of the VA's disclosure last week that "electronic data" containing the unencrypted names, Social Security numbers and birth dates of all U.S. veterans discharged since 1975 was stolen during a burglary at the Maryland home of a data analyst who works for the agency.

VA officials said the analyst had legitimate access to the data at work but wasn't authorized to take it home. The agency didn't specify what kind of IT equipment was stolen, but the FBI and the VA inspector general's office jointly identified it as a laptop and an external hard drive.

The theft is one of the biggest data breaches reported thus far. But aside from its massive scope, the incident at the VA is no different from countless other compromises, and it points to a continuing failure by many organizations to implement well-understood controls on data transmission, access and storage, IT managers and security analysts said.

"What it comes down to is information life-cycle management," said Robert Garigue, chief security executive and vice president of information integrity at Bell Canada in Montreal. Far too often, companies focus solely on protecting their technology infrastructures, to the exclusion of ensuring that the information stored within them is safe from being illegally accessed or compromised, Garigue said.

The lack of attention paid to protecting data is especially dangerous because of the widely distributed nature of corporate information and the myriad ways in which it can be accessed, he added.

"I don't know if anybody can honestly say they have thought of every single way someone can pilfer data," O'Pry conceded. But it pays to put controls around some of the more obvious ones, he said.

Simple Steps

One of the simplest steps is encrypting sensitive data on all removable and archival storage media to protect against

> **What it comes down to is information life-cyle management.**
>
> **ROBERT GARIGUE,** CHIEF SECURITY EXECUTIVE, BELL CANADA

compromises if devices are lost or stolen, said Eric Beasley, an IT security manager at a bank in the Midwest that he asked not be named.

According to SANS Institute analyst Alan Paller, the VA "should have made it so easy and inexpensive for employees to encrypt data on their PCs and have had such a high penalty for not doing it that everyone would have [complied]."

O'Pry said that restricting end users' ability to attach removable media, such as USB thumb drives, external hard disks, and DVD and CD burners, to their systems is another relatively straightforward way to lessen the risk of data leaks.

In addition to adopting such restrictions, Henssler Financial has installed network filters to ensure that sensitive information isn't leaking out in e-mail messages or through chat sessions and other peer-to-peer applications, O'Pry said.

The financial services firm is also using a database auditing tool from Acton, Mass.-based Lumigent Inc. to monitor database activity and alert administrators to suspicious activity, such as someone trying to download unusually large amounts of data.

Securing a network against external attacks does little to protect data against accidental or malicious compromises by insiders, said Lloyd Hession, chief information security officer at New York-based BT Radianz, which provides telecommunications services to the financial industry.

In environments where end users can get access to databases containing confidential information, numerous checks and balances have to be in place, Hession said.

Equally crucial is the need for security education, he added. Lapses often happen because end users simply don't know how to handle sensitive data, according to Hession. "The No. 1 tool really is awareness," he said. ▶

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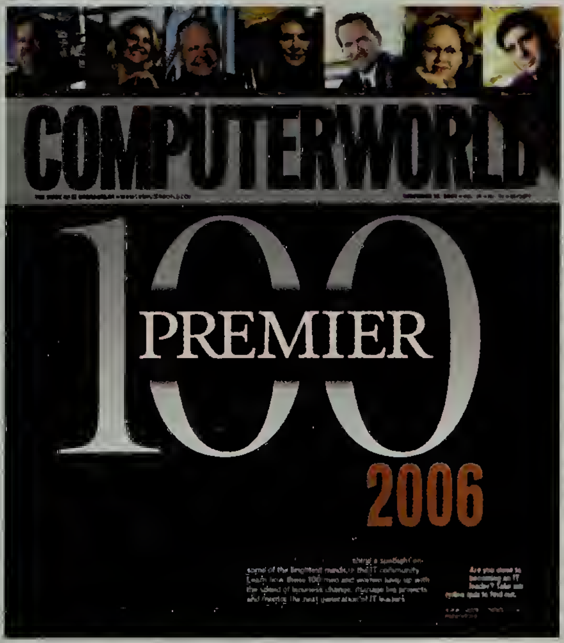

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FRANK HAYES ▪ FRANKLY SPEAKING

The Real VA Fix

THIS is Memorial Day in the U.S., a day set aside for honoring Americans who died fighting for their country. The U.S. Department of Veterans Affairs got an early start on the celebration last week by announcing that personal data on 26.5 million U.S. veterans was recently stolen, exposing them to possible identity theft. (See story, page 1.)

That's about one of every 10 Americans.

And not Americans who did anything risky with their personal data. What they risked was their lives in the service of their nation. And the thanks they get is that the VA was sloppy with their information and it was stolen, and now they're left twisting in the wind.

And it shouldn't have happened. It was completely unnecessary.

Everyone knows the story from news reports by now: A VA employee, who was authorized to access the data only at the office, took it home. His computer was stolen in a burglary. The computer contained names, birth dates and Social Security numbers for everyone discharged from the U.S. military since 1975.

Now politicians are screaming for investigations and firings at the VA. That's the sort of feel-good blame-mongering that plays well in an election year.

Fire the employee who broke the rules? Sure. Fire the bureaucrats up the line, and scapegoat the political appointees at the top? Fine. But none of that will prevent this from happening again — at the VA or anywhere else.

There's a real solution to this problem. And once you politicians have finished your Memorial Day speeches, you have the power to make that solution a reality.

You just have to pass a law dictating that all U.S. government agencies protect Social Security numbers as sensitive information and make them available to employees only on a need-to-know basis.

That way, people like that VA employee wouldn't lose millions of Social Security numbers in a burglary. They wouldn't lose them because they couldn't take them home. They couldn't take them home because they'd never have access to them in the first place.

Do they need them? Of course not. No employee needs a pile of 26.5 million Social Security numbers. Most government employees don't use Social Security numbers for Social Security- or tax-related work anyway. It's just a convenient way to keep track of who's who, so they don't confuse one John J. Jones born on July 4, 1960, with another John J. Jones with the same birth date.

For that, all they need is a unique identifying number. Those are easy to generate. Lots of businesses that once used Social Security numbers as identifiers have replaced them with their own customer IDs. Federal agencies can, too.

This isn't a technical challenge. It requires a technical fix, but it's far easier than Y2k or Sarbanes-Oxley. Mainly it's a political problem: You lawmakers will have to find the will to do it.

So let's shave away the excuses.

Forget about some grand, unpassable law banning commercial use of Social Security numbers. Just tighten things up at federal agencies. That way you don't have to face lobbyists sobbing that their keepers can't afford the cost, or think-tankers whining about government interference in the private sector.

Forget about arguments that limiting use of Social Security numbers will hamstring law enforcement. If the FBI, CIA, NSA and IRS need to use them, they can. VA bureaucrats aren't on that list.

And forget about claims that restrictions will be hugely expensive or highly disruptive to agencies' work. The work-arounds are cost-effective. The employees can adjust.

Remember this: This Memorial Day, tens of millions of veterans who fought to protect this country have been left unprotected, exposed to identity thieves.

And it will happen again — to them and to all of us — unless you do something about it. ▸

FRANK HAYES, *Computerworld*'s senior news columnist, has covered IT for more than 20 years. Contact him at **frank_hayes@computerworld.com.**

SHARK TANK

Not Quite What He Planned

Pilot fish gets a directive from the boss: From now on, all PCs must be switched off at night. "One of the team had left a spreadsheet open overnight, and the boss couldn't make changes to it," explains fish. But now there's a new problem: Some of the team's work requires a six-hour uninterrupted run. "So if we came across a problem that couldn't be finished in time, we weren't able to start it until early the next day," says fish. "A lot of sitting around surfing the Web ensued. That directive only lasted three weeks – until the work started to pile up."

Oops!

Facility manager asks programmer pilot fish how to use the new USB flash drive his kids got him for his birthday. "Wanting to make a good impression, I plugged his flash drive into my PC, where my flash drive was also plugged in," fish says. "As I was showing him what not to do, I wiped out my entire flash drive with 200MB of personal and business information. I have a meeting with the boss and teammates next Monday; I'm trying to figure out how to explain my lost data."

Whatever Works

User spills a drink on his keyboard, and pilot fish swaps in a replacement, then calls support. Put it in water to keep it from drying out, and I'll fix it when I come in, support guy says. "The keyboard was duly placed in a sink in the break room," says fish. "And to encourage people to leave it there, a sign was stuck over the sink saying, 'Some people fix their computer bugs – we drown ours.' And, yes, the keyboard survived."

By the Numbers

Co-worker in training class to pilot fish: "Why, when the instructor wants us to see something better, does he change the number in that box on the top of the screen from 10096 to 15096?" Fish: "It took the rest of us in the room several minutes to figure out that the instructor was increasing the page size from 100% to 150%. On the screen projection, it sure *looked* like 10096 and 15096."

Switcheroo

Pilot fish is in network manager's office when the phone rings: It's a technician asking if the network team removed any switches from one of this hospital's buildings. "The users had frantically come up to the technician reporting switches missing," fish says. "The answer was no – no network hardware had been removed from the area." A little more digging, and the problem becomes clear. "It was *light* switches that were missing," says fish. "I guess that's a network issue."

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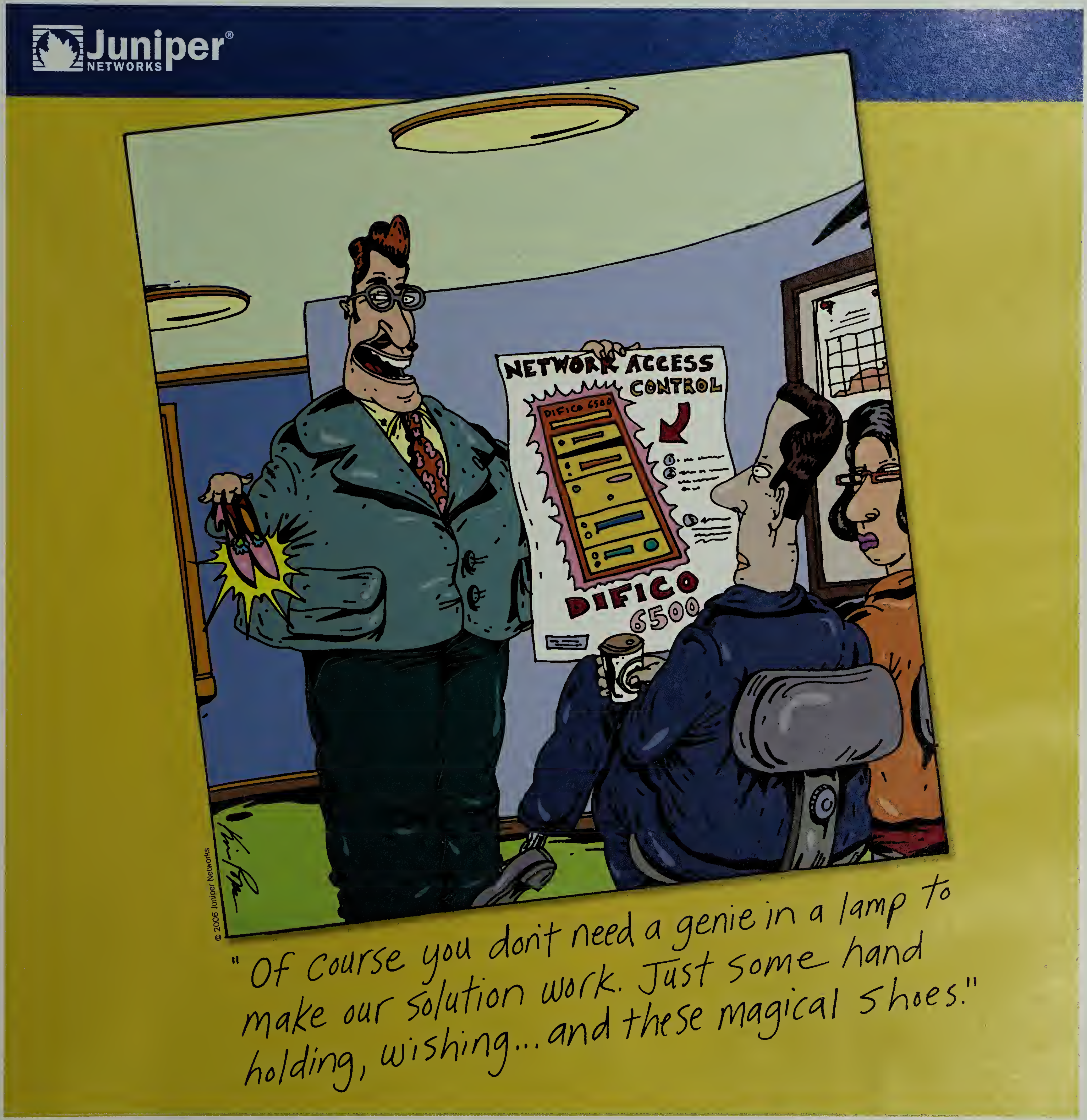

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